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# DESIGN NATION

## British design 2005

Creative trends, advice and analysis  
Who's earning what in 2005

### INSIDE

Surreal Photoshop FX  
Sony FX1 HDV camcorder  
3D tools for 2D artists  
Making TimeSplitters 3  
Film scanners tested  
Reader showcase

### On the CD



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### **CREATIVITY IN THE UK**

The true language of Britain is the language of design. Signs and symbols, catchphrases and slogans – nothing reflects life in the UK more than its creative output.

This language isn't just the traditional bastions of Winston Churchill's pug-shaped head and the Union Jack. Nor is it just the rebellion of Johnny Rotten's sneer and Banksy's graffiti. It's all of these, plus all of the others that we all know: the livery of British Airways, Manchester United red and Wimbledon whites, both versions of *God Save The Queen*, the Queen's head on our money and the King's Arms, WC1.

It contains the stark silhouettes of warning signs and the overdose of news programme graphics. It's as contradictory as the RAF bullseye and the Mods take on it, too. It's as basic as traffic cones and the outline of the London Eye. It even includes the McDonalds arches and the Nike swoosh. They're here, so they're ours, and we'll treat them how we wish. It's British design and we'll make of it what we want.

### **TEAM DIGIT**

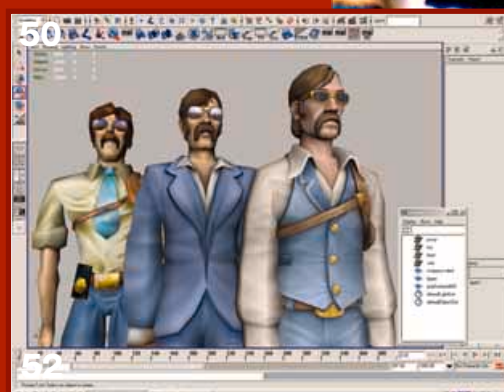


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by James Taylor, [www.printzoo.co.uk](http://www.printzoo.co.uk)



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**Design Nation cover illustration:** by Peter Quinnell, [fletcher-quinnell@lineone.net](mailto:fletcher-quinnell@lineone.net)

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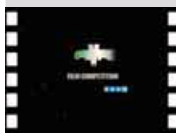
**128 Cover CD:** complete guide to this month's applications and demos

## Nibs

**Cobra offers shorts bite**

Budding short film makers are being offered the chance to have their work shown on national television – thanks to a competition by Cobra Beer and ITV. Entries can include “talking socks, stop motion, and dancing stick men,” reckon organizers. Prizes include a year’s supply of beer.

[www.cobrabeer.com](http://www.cobrabeer.com)

**X Factor hits iTV records**

Interactive TV has come of age – at least, if the number of people pressing the red button on their remotes to vote are any indicator. Over 8.5 million people voted interactively during the live two-hour final, broadcast on ITV, including via SMS, making it a record to a TV show.

[www.xfactor.tv](http://www.xfactor.tv)

**Skillset is on course**

Skillset is to develop an industry accreditation scheme for degree courses relevant to the computer games industry, partnering with ELSPA and TIGA. Game publishers will be surveyed and invited to industry workshops to share their views on the suitability of available courses.

**Ars Electronica**

# Prix Ars Electronica 2005 celebrates ‘CyberArts’



Previous winners range from large studios to individuals and students. Examples shown include *Ryan* (main image), *Parentese*, *No Limits*, and *Moo*.

**P**rix Ars Electronica 2005 has launched – and is billing itself as the world’s largest digital arts competition, with six Golden Nicas and €110,000 in prize money up for grabs. The contest, aimed at a global audience of creatives working in media art and technology, is soliciting entries, with a deadline of March 11.

Previous winners have included the Creative Commons, visual effects house Tippett Studio, Sejong Park’s *Birthday Boy*, Pixar’s *Finding Nemo* and *Monsters Inc*, *Moo* by Leigh Hodgkinson, Capcom’s *Onimusha 3*, Chris Landreth’s *Ryan* CG short, The Mill, and the pre-visualization work for the movie *Panic Room*.

Categories range from The Next Idea and u19 competitions for students, to classic Ars Electronica disciplines, such as computer animation and interactive art. The contest, which is being held for the nineteenth year, includes seven categories in its call for entries.

The Computer Animation & Visual Effects category recognizes excellence in both independent and commercial productions for film, advertising, and entertainment – with organizers saying that judges are looking for work that blends artistic originality and technical achievement.

The Interactive Art category is aimed at interactive work in all forms and formats, say organizers, from installations to performances. Judges will be looking for the realization of powerful artistic concepts and use of technology, as well as innovation in interactive design

## PREVIOUS WINNERS INCLUDE PIXAR, CAPCOM, THE MILL, AND STUDENTS

ARS ELECTRONICA

and “the work’s inherent potential to expand the human radius of action”.

The Net Vision category singles out for recognition artistic projects on the Internet that excel in engineering, interface design, originality, and innovation, while the Digital Communities award will showcase the wide-ranging social impact of the Internet, and designs that bridge the geographical and gender-based digital divide.

The Next Idea is aimed at students aged 19-27 who have developed non-commercial concepts in the fields of media art, media design, or media technology. The winner will get a €7,500 grant and the chance to spend a semester as artist-in-residence at the Ars Electronica FutureLab. A “freestyle computing” category – u19 – is aimed at schoolchildren, and gives them free creative reign in interactive design.

The competition is run by Ars Electronica, an Austrian organization that runs the Ars Electronica Centre – Museum of the Future, and Europe’s FutureLab, which explores state-of-the-art design and the future of digital interactivity.

Prix Ars Electronica, [www.aec.at/en/prix/](http://www.aec.at/en/prix/)





## The Mill makes light of Muller to create seamless CG dance advert

The Mill has detailed its work for the new Muller TV spot – an infectious feel-good mini movie dubbed *I've Got Life* – and has revealed that every shot demanded CG post production, including extensive use of head replacement work.

The Mill says the project included all characters shot in situ, with replacement head actors shot against keyable backgrounds in the same environment as the original actor, with their heads then

keyed out and tracked onto the original actor. Both actors – the person filmed for their body and the person supplying the head acting – had to mimic each other's actions as closely as possible.

Head replacement was carried out by Flame artist Yourick Van Impe, with blending work at different points of the chin and neck being the toughest challenge. It was then colour-corrected in Flame.

The Mill, [www.mill.co.uk](http://www.mill.co.uk)

## Animation development scheme to launch seeking talented animators



An initiative that will provide work placement opportunities for talented new animators has been launched in the West Midlands by Light House. It is partnering with Screen West Midlands, and animation companies The CharacterShop and Screenburn are to provide placements that will work on real commissions and provide animators with the chance to develop technical and creative skills, say the scheme's organizers.

Screenburn (pictured) has reached the shortlist for the most prestigious animation competition in the UK, run by Alias and HP – less than a year after the Advantage Creative Fund helped them to start up with an investment of £25,000.

Applicants to the scheme must be a graduate and resident of West Midlands.

Light House, [www.light-house.co.uk](http://www.light-house.co.uk)

## Nibs

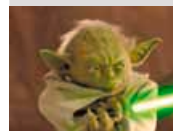
### Goodby to lead judging

Co-chairman of Goodby, Silverstein & Partners – Jeff Goodby – is to head the Cannes Lions jury for integrated campaigns. He has been billed as America's best TV copywriter. The awards, handed out in June, will honour work across a range of media channels, say organizers. [canneslions.com](http://canneslions.com)



### Fans to feel the force

Atomfilms and Lucasfilm have detailed the fourth annual Star Wars Fan Film Awards. Entries can be sent in until March 8, and can include both spoof and film documentaries. Winners are selected by George Lucas. Do or do not – there is no try, as Yoda might say. [atomfilms.com](http://atomfilms.com)



### Hollywood ups battle

Hollywood has embarked on yet another antipiracy campaign. Spooked by broadband, the movie industry is expanding its legal and legislative offensive against perceived threats. So far 200 lawsuits against users for allegedly trading movies over peer-to-peer networks, have been issued.



## onedotzero9 is ready for launch

Digital moving-image festival onedotzero9 is returning to the ICA in London in May, and is calling for entries for its highly regarded event. The annual festival – now in its ninth year – celebrates innovative moving images across music video, motion graphics, fashion, computer gaming, Japanese animation, club visuals, and live performance.

Festival programming, which is held from May 27 to June 5, 2005, includes wow+flutter that explores creative animation and motion graphics, and j-star 05, which will screen the freshest output from Japan's finest moving image makers not previously seen outside of the country. Other screenings include indie shorts, unreleased CGI gaming sequences, and the latest music videos. Deadline for submissions is February 25, 2005.

onedotzero9, [www.onedotzero.com](http://www.onedotzero.com)

## Quark bets on open standards

Quark has introduced QuarkXPress Markup Language (QXML), an open source XML schema that conforms to the W3C Document Object Model (DOM). Because QXML fully describes the QuarkXPress 6.5 file format in XML, developers will find it easier to create custom XTensions by using a variety of development platforms and languages, such as Java, AppleScript or Perl, says Quark. [Quark, www.quark.co.uk](http://www.quark.co.uk)





VES awards

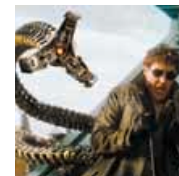
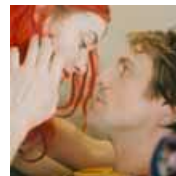
## Visual effects artists hailed

**N**ominations for the Visual Effects Society (VES) Awards have been announced, which recognize outstanding visual effects in 19 categories of film, television, commercials, music videos, and games. Chosen by a panel of 60 industry professionals, who combed through hundreds of entries according to the awards organizers, the VES Awards winner will be revealed on February 16. Academy Award winning director, Robert Zemeckis, will receive the VES Lifetime Achievement Award, which will be presented by fellow Oscar winner Tom Hanks.

Leading the nomination charge is UK company Framestore CFC, which scooped five nominations for its staff. Framestore CFC's nominations span three different media – commercials, television and film – more than any other single facility, marking a unique achievement for the UK company. Framestore CFC nominations include work for Johnnie Walker *Tree*; *Dragons*; *Space Odyssey*; *Voyage to the Planets*; *Harry Potter and the Prisoner of Azkaban*; and *Troy*.

Other nominations include movies such as *Spider-man 2*, *Sky Captain and the World Tomorrow*, *The Incredibles*, and *Eternal Sunshine Of The Spotless Mind*.

VES, [www.vesawards.com](http://www.vesawards.com)



### Samsung to flex its LCDs

Samsung has developed a flexible LCD panel that measures five inches diagonally, and intends to commercialize products based on it by 2007. The flexible prototype is made from a plastic backing that is thin enough so it can be bent. Displays based on the technology will be lighter and more robust than conventional LCDs, says Samsung.



## next-gen Blu-ray Disc, HD-DVD gathering support



ELECTRONIC ARTS and Vivendi Universal Games are to support the Blu-ray Disc optical disc format. Recent months have seen many of the major Hollywood studios signal support for Blu-ray Disc or the competing HD-DVD format but game software publishers have been largely quiet on their plans. Sony is a major backer of Blu-ray and has already said it will use Blu-ray Disc in its next home game console, the successor to the PlayStation 2.



THREE MAJOR HOLLYWOOD studios and hardware makers backing the HD-DVD format have committed to releasing players and high-definition movies by the end of this year. Toshiba, NEC and Sanyo said players for the format will be available in September this year, and Warner Home Video, Universal Pictures and Paramount Pictures announced 89 titles that will be available on the new format at or close to their launch.



HIGH-DEFINITION TELEVISION is still in its infancy, but already a new crop of sets is upping the ante. At the 2005 CES show in Las Vegas, almost all major vendors are showing high-end sets with native 1080p screen formats – a big step up from the 720p format of today's HDTVs. What this means is that these newer sets will have 1080 rows of pixels, compared to the 720 rows on shipping HD sets. UK released dates are still to be set.



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## technology

# PSP gets US debut at CES

**S**ony Computer Entertainment America (SCEA) unveiled the first playable versions of US PSP titles at the CES show in January. According to Hirai, SCEA president and CEO, Sony shipped 200,000 PSP units for the Japanese launch, and a total of 510,000 by the end of the year. More than 100 PSP games are currently in development worldwide.

Hirai made a point that Sony was going to focus on new titles and extensions of existing franchises – and a big part of Sony's push with the PSP will be connectivity both with the PS2 and the PC. Sony hopes game designers will plan titles with both systems in mind in order to allow for data transfer.

"One of the market drivers will be original intellectual property development with games designed to take advantage of the way in which consumers experience portable entertainment," said Hirai.

The PSP's large, crisp screen is ideal for video playback and Sony is actively pursuing movie studios to release their titles on UMDs. No movies were confirmed, though Sony did have video demos from Sony Pictures Entertainment, Sony BMG, Dreamworks and 20th Century Fox on hand. PSP is expected to launch in March in the UK.



## Nibs

### b.Tween to show future

b.Tween 2005 is a new festival that aims to focus on the future of digital entertainment – such as 3D TVs (image below) – and will be held in South Yorkshire on 14-18 February, 2005. Speakers will include Brooke Burgess of Broken Saints fame, and Adam Gee from C4. [www.just-b.com](http://www.just-b.com)



### Corbis move is a Marvel

Stock library Corbis has detailed a move to add Marvel's range of superhero images to its line-up in a multi-year deal that includes rights to the likes of the Hulk, Spider-man, Captain America, and the Fantastic Four. The images are available as rights-protected artwork. [www.corbis.com](http://www.corbis.com)



### MS planning a Sony deal?

Evidence has emerged that Microsoft could be pursuing a partnership with Sony to take on digital music star Apple. Microsoft Chairman Bill Gates was quoted in *The Wall Street Journal* as saying that both Microsoft and Sony have incentive to work together on digital music.



## Webaccessibility Awards looming

The Museums, Libraries and Archives Council (MLA) have launched the 2005 Jodi Mattes Webaccessibility Awards 2005, and are looking for entrants. The awards honour the best online gallery, museum, library, archive, or heritage Web site that demonstrates active commitment to meeting Web accessibility standards, involves users and develops practical and imaginative ways of making cultural and learning resources available to disabled people. The sites need to have been developed in England, and there are two awards up for grabs.

MLA, [www.mla.gov.uk](http://www.mla.gov.uk)



## Microsoft loses EU media case

Microsoft has lost its bid to suspend sanctions imposed on its business practices by European regulators pending the outcome of an appeal. The President of the Court of First Instance, the European Union's second-highest court, ruled in December that Microsoft must offer a version of its Windows operating system that does not include its Media Player software, and must also publish APIs that should make it easier for competitors to make server products that work well with its Windows software. A version of Windows without Windows Media Player became available from PC makers in Europe from January 2005.



## Panasonic and Olympus team up

Panasonic and Olympus have formed an alliance to develop digital SLR camera technologies. They aim to produce high-end models for photographers some time in 2006, after releasing concept models early that year. Each company is looking to produce lenses and bodies that will be interchangeable and sell finished products under their own brand names, said Hiroshi Komiya, director of Olympus. The companies did not give details about new technologies they are developing, target prices for cameras, or sales plans.



## CafeFX rises to Phoenix effects

US effects studio CafeFX has revealed that it has completed the main visuals for the film *Flight of the Phoenix*. The remake of the 1965 original includes the most complex particle animation ever undertaken by CafeFX, including 59 shots for the key sand storm sequence.

The sand storm was created using Discreet 3DS Max and AfterBurn, and Alias Maya for animating the particles. Composition was handled with Eyeon Digital Fusion, and NewTek LightWave 3D was used to model and texture the plane.

One technique employed was to have rivets of sand particles interact with the camera, with larger clumps of sand rendered as procedural textures further away.

## Nibs

### Photography is on the up

Market-research company IDC has revealed a huge rise in people using digital photography in Europe. France is the most snap happy, with 37 per cent of users saying they take over 100 digital images per month – and up to a quarter print out the images they capture for safe keeping.

[www.idc.com](http://www.idc.com)



### Nike Women campaign

Nike has launched a new TV ad campaign for its Nike Women range, created by Weiden+Kennedy with post-production by The Mill. The spot features female athletes in a dance off. It was directed by Jamie King, who has worked with the likes of Britney Spears and Ricky Martin.

[www.wk.com](http://www.wk.com)



### Goooooogle immmmages

Google has introduced an upgrade to its Picasa photo-editing and organizing software, offering users advanced capabilities such as adding basic lighting and colour effects, and CD burning. Picasa 2, available for free download from the Google Web site.

[www.google.com](http://www.google.com)



# Apple aims at lower-end PCs

Apple plans to attack the low-end of its primary markets this year with smaller versions of the Macintosh computer and the iPod music player, CEO Steve Jobs said at January's Macworld Expo.

During a keynote address to the rapt audience of Apple fans, Jobs unveiled the Mac Mini and the iPod Shuffle, along with several enhancements to the forthcoming Tiger version of Mac OS X. Both the Mac Mini and the iPod Shuffle are designed to attract mainstream users who may be familiar with Apple's other products, but are unwilling to spend the money on the full-featured versions, Jobs said.

The Mac Mini is a complete Macintosh system not much longer or wider than a compact disc, and shorter than an iPod Mini at only 4.9cm. It features Apple's G4 processor, a generation behind the G5 currently shipping in Power Macs and iMacs.

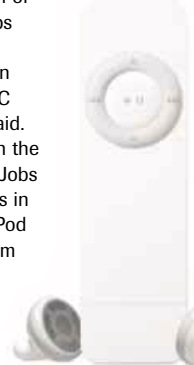
Apple will release two versions of the Mac Mini. The least expensive model will cost £339 (inc VAT) with a 1.25GHz G4 processor, 256MB of PC2700 (333MHz) DDR (double data rate) SDRAM (synchronous

dynamic RAM), a 40GB hard drive, a DVD/CD-RW optical drive and an ATI Radeon 9200 graphics card. The other model costs £399 with a 1.42GHz processor and an 80GB hard drive.

The iPod Shuffle is Apple's vision of a low-cost music player that is extremely easy to use, Jobs said. The earlier versions of the iPod came with hard disk drives ranging from 4GB for the iPod Mini to a 60GB iPod Photo. The iPod Shuffle can store either 512MB or 1GB of data on flash memory.

Most users will put music on the iPod Shuffle, but it can also be used as a portable USB (Universal Serial Bus) device, Jobs said. The bottom of the iPod Shuffle snaps off to reveal a USB attachment which can plug directly into a PC or a Macintosh, he said.

"We've just begun the era of digital music," Jobs said. Apple now takes in more revenue from iPod sales than it does from selling computers.





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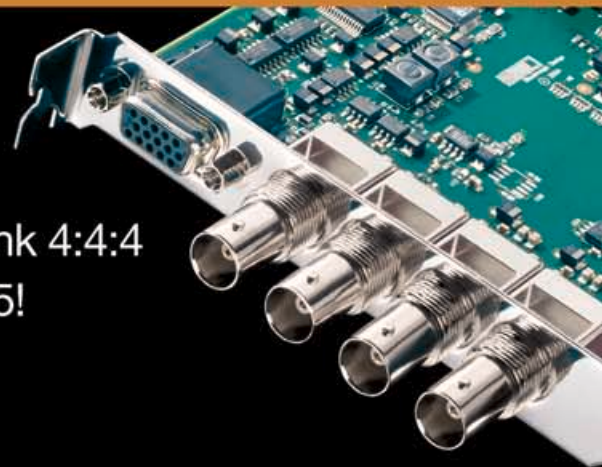
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www.zefa.co.uk  
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saturday	sunday	monday	tuesday	wednesday	thursday	friday
			01 <b>FOCUS ON IMAGING NEC, BIRMINGHAM</b> Professional digital camera exhibition. <a href="http://focus-on-imaging.co.uk">focus-on-imaging.co.uk</a>	02 <b>D-FUTURES LONDON</b> Designing services and experiences. <a href="http://designcouncil.org.uk">designcouncil.org.uk</a>	03	04 <b>FLIGHT OF THE PHOENIX</b> Effects-heavy opening scene to this remake of the aircrash classic make this a film worth catching. <i>On general release</i>
05	06	07	08	09 <b>KIDS &amp; NEW FAMILY DYNAMICS LONDON</b> How to make your brand reach today's kids. <a href="http://www.centaur.co.uk/coferences/kids/index.asp">www.centaur.co.uk/coferences/kids/index.asp</a>	10 <b>CEBIT 2005 HANOVER, GERMANY</b> World's largest consumer electronics show. <a href="http://www.cebitt.de">www.cebitt.de</a>	11 <b>WEBACCESSIBILITY</b> Deadline for Web nominations. <a href="http://www.mib.org.uk">www.mib.org.uk</a>
12 <b>CEBIT 2005 HANOVER, GERMANY</b> <a href="http://www.cebitt.de">www.cebitt.de</a>	13	14	15	16	17 <b>FROM THE INSIDE LOOKING OUT LONDON</b> Running alongside the Education Show, it will bring the worlds of education and design together. <a href="http://designcouncil.org.uk">designcouncil.org.uk</a>	18 <b>ROBOTS</b> Set on a world populated by robots, this CG movie is about a young genius who wants to make robots to make the world a better place. <i>On general release</i>
19 <b>B&amp;W PRINTING LONDON</b> A comprehensive introduction to B&W printing, darkroom techniques and procedures, held over two days. <a href="http://creative-capital.org.uk">creative-capital.org.uk</a>	20	21	22	23	24	25
26 <b>B&amp;W PRINTING LONDON</b> A comprehensive introduction to B&W printing, darkroom techniques and procedures – second day of training. <a href="http://creative-capital.org.uk">creative-capital.org.uk</a>	27	28	30	31		



## Introducing DeckLink HD Pro

The world's highest quality HDTV Dual Link 4:4:4 and NTSC/PAL video card for only \$1,995!



**DeckLink HD Pro Features:** HDTV and standard definition support in 4:2:2 or Dual Link 4:4:4 • All HDTV formats including 1080/24p, 50i, 59.94i, 60i, 720/59.94p, 60p • Standard definition SDI format support for NTSC and PAL • Precision 14 bit analog monitoring output. Switches between HD or SD • True 10 bit RGB 4:4:4 or YUV 4:2:2 HDTV capture • Instantly switch between SMPTE-259M SDI and SMPTE-292M HD-SDI • Dual HD-SDI input and output for Dual Link 4:4:4 and 12 bit support • SPDIF/AES output, SPDIF/AES input and AES word-clock output • Sony™ compatible RS-422 serial deck control port included • Black burst & HD Tri-Sync compatible genlock input.

**Dual platform compatibility.** Includes drivers for Microsoft Windows XP™ and Premiere Pro™, Mac OS X™, QuickTime™ and Final Cut Pro™.



**Support for all leading broadcast applications.** Apple Final Cut Pro™ • Adobe Premiere Pro™ • Adobe After Effects™ • Discreet Combustion™ • DVD Studio Pro • iDVD™ • Discreet Cleaner™ • Color Finesse™ • Microcosm™ • Apple Shake™ And most other QuickTime™ and DirectShow™ based applications.



### Blackmagic Design's industry leading range of 10/12 bit Dual Link 4:4:4 products for HD and SD

#### DeckLink HD Pro

Introducing the world's highest quality video card with amazing Dual Link HDTV 4:4:4 SDI for 10/12 bit RGB workflow. DeckLink HD Pro instantly switches between HD and standard definition. Now you can afford the best quality HDTV card available, even if most of your work is standard definition. DeckLink HD Pro does both!

DeckLink HD Pro features an unprecedented 14 bit 4:4:4 analog monitoring output, retaining the subtle detail of film originated video. Combined with high speed converters, adds up to the world's best HDTV monitoring. Monitoring instantly switches between HD and SD. Great features like SPDIF/AES audio, and black burst & HD Tri-Sync input helped DeckLink HD Pro win 4 leading industry awards at NAB 2004.

#### Workgroup Videohub

Workgroup Videohub eliminates manual cable patching by connecting everyone together into a fully featured professional routing switcher. Also includes independent monitoring outputs so you can instantly see any deck or editing system in your facility. Workgroup Videohub has 12 fully independent dual rate SDI inputs and 24 independent SDI outputs that auto switch between HD-SDI and Standard Definition SDI.



RRP US\$4,995

#### HDLink

HDLink connects SDI video to any supported DVI-D based LCD computer monitor for true HDTV resolution video monitoring. Featuring Dual Link 4:4:4 HD-SDI, 4:2:2 SD-SDI and a fast USB 2.0 input with de-embedded analog RCA audio outputs. Because every single pixel in the SDI video standard is mapped digitally onto the pixels of a 1920 x 1200 resolution LCD display, you get a perfect digital pixel for pixel HDTV image quality. There's simply no higher resolution HDTV monitoring possible!



RRP US\$695

#### DeckLink HD

This world leading 10 bit HDTV SDI card has changed the broadcast industry. It instantly switches between HDTV or NTSC/PAL SD eliminating your upgrade risk to HDTV.



RRP US\$595

#### DeckLink Extreme

This amazing video card features 10 and 8 bit SD-SDI, HD-SDI down conversion, analog composite and component I/O, balanced analog audio I/O, DV, JPEG, internal keyer, genlock and so much more.



RRP US\$895

Blackmagicdesign

Visit our website [www.blackmagic-design.com](http://www.blackmagic-design.com) or call your local DeckLink dealer for more information

# Sony debuts camcorders



**S**ony has announced new ranges of camcorders, and a 7.2mp digital still camera. The Cybershot P200 has enclosed its 7.2 million pixel CCD in a slim, stylish body. It has a Carl Zeiss Vario-Tessar lens with 3x optical zoom capability, and uses Sony's Real Image Processor technology to produce rich colours, clear images, sharper focus and more accurate exposures, according to the company.

The camera also features a two-inch LCD screen, nine scene selection modes, manual exposure modes, a USB 2.0 connection for fast transfer of images, and stores images on Memory Stick media cards. An optional Cyber-shot Station dock is available for charging the camera battery and downloading images. The Cybershot P200 will ship in February.

Sony is also launching what it claims is the smallest and lightest miniDV camcorder so far. The DCR-PC55E (and it's DV out-only sibling, the PC53E) features a 10x optical zoom lens, a three-inch LCD touchscreen, and ships with a cradle for charging and video transfer. The PC55E and PC53E will ship in February 2005.

Equally small is the strange-looking DCR-DVD7E camcorder, which records onto DVD-R, DVD-RW or DVD+RW discs in MPEG-2 format. Like the PC55E, the DVD7E features a Carl Zeiss Vario-Tessar 10x optical zoom lens and has a 2.5-inch LCD screen on its back face. It will ship in May 2005.

At the high-end of Sony's mainstream camcorder range, the company has introduced the DCR-PC1000E and the DCR-HC90E. The PC1000E features three CMOS sensors and Enhanced Imaging Processor technology, which Sony claims allows a wide dynamic range to be captured. The 1/6-inch CMOS sensors can capture up to 790,000 pixels each.

The PC1000E offers manual control over Focus, Exposure, AE Shift, and White Balance, with control available through a single, assignable dial. A Cinematic mode mimics the look of film, according to Sony, while a histogram chart is available to display luminosity values.

The DCR-HC90E features a three-megapixel CCD with a Primary Colour Filter that Sony says improves colour reproduction. Widescreen footage can be captured using the full width of the hi-res CCD. Both camcorders feature a 10x optical zoom lens, a 2.7-inch LCD screen with the facility to display a true 16:9 widescreen picture and the capability to record 5.1-channel surround sound using the optional ECM-HQP1 microphone.

The HC90E will ship in April, with the PC1000 shipping in May. Pricing for all of the products has not yet been announced.

Sony, [www.sony.co.uk](http://www.sony.co.uk)



**LOGITECH HAS RELEASED** a keyboard and mouse combo that combines its MX1000 laser mouse and new MX3100 wireless keyboard into one package. The wireless keyboard includes special keys for recording and playing music and video on a PC. Additional buttons can be used for editing photos. Both the wireless keyboard and mouse will share one RF (radio frequency) receiver and will have horizontal and vertical scrolling capabilities.

Logitech, [www.logitech.co.uk](http://www.logitech.co.uk)



**LACIE HAS RELEASED** an external hard drive that can be connected via USB 2.0 or made available over a network via 10/100Mbps ethernet. The Ethernet Disk Mini costs £166 plus VAT for the 250GB version and £268 plus for the 400GB configuration. A 500GB version is also to be released, with pricing not available yet. The units ship with a stand for upright drive use, utilities, and the Silverkeeper backup software for the Mac.

LaCie, [www.lacie.com/uk](http://www.lacie.com/uk)

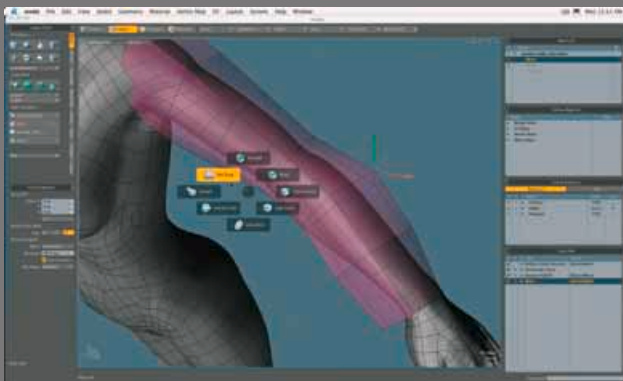


**SEAGATE HAS BEGUN** offering a Compact Flash card form-factor hard-disk drive. The product will offer 2.5GB and 5GB storage capacities and be targeted at applications such as digital photography. Seagate's new drive will increase competition in an already competitive sector of the hard-disk drive market. For several years Hitachi's Microdrive has dominated, but that position is now under pressure from companies like Seagate.

Seagate, [www.seagate.com](http://www.seagate.com)







## Modo gets 100 free tweaks

Luxology has released Modo 102, the latest version of its 3D subdivision surface and polygonal modelling platform. The company claims over 100 enhancements in the update, which is free for current users. Enhancements include improved real-time performance and a more user-friendly interface. The release includes an improved advanced toolset, with new functionality such as bridge, paste, and loop slice, which Luxology claims enables users to create new geometry faster and with greater control. Organic tools such as bend and element falloff distance provide a flexible approach to smooth mesh transformation, the company claims. Modo 102 adds support for the LUA scripting language often used by game developers.

Luxology, [www.luxology.com](http://www.luxology.com)

## Pantone launches redesigned colour matching guidebooks

Pantone has released redesigned versions of its formula guides. The 2005 formula guide is the most substantial redesign of the guides for over 30 years, says the company. The fan books are 25 per cent larger than Pantone's previous books, which the company claims has been done to increase accuracy and visual reference. The new solid chips book features larger tear-out chips.

Both sets have been produced on Pantone's new printing press, which the company says has been precision-engineered to produce books featuring more accurate colours. Both sets use a whiter paper that accurately matches popular paper stocks. The Pantone formula guide set costs £50 plus VAT for the two book set (coated and uncoated fanbooks), and £67 plus VAT for the three-book set, which adds the matte fanbook. The solid chips book set costs £140 plus VAT for the two book set and £168 plus VAT for the three book set.

[www.pantone.co.uk](http://www.pantone.co.uk)



## Nibs

### Auto shows Form•Z 5.0

Auto.des.sys has shown Form•Z 5.0, a major new upgrade to its solid and surface 3D modeller for Mac OS X, for the first time at the Macworld Expo in January. This release is the first native Mac OS X version and also adds an open architecture, new tools, features and enhancements.



### FireWire 800 is 'biggest'

LaCie has released its largest storage unit, the Biggest Disk. The unit contains up to four arrayed ATA disks for up to 2TB of storage, and connects to Macs and PCs using FireWire 800 and USB 2.0. The drives can be arranged in different RAID configurations.

[www.lacie.com/uk](http://www.lacie.com/uk)



### Chartbot to add to DTP

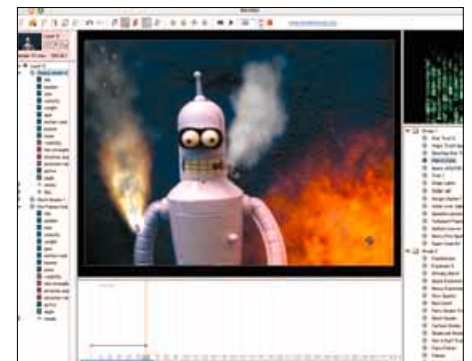
XChange has released Chartbot, a plug-in for Adobe InDesign and QuarkXPress that's designed to make the creation of data-driven charts more efficient. The plug-in aims to make creating graphs faster than building them in Illustrator or Excel. Chartbot costs £569 plus VAT.



## Kodak snaps out two digital cameras

Kodak has released two digital cameras, the EasyShare Z740 with a five-megapixel CCD and a 10x zoom lens, and the EasyShare Z700 with a four-megapixel CCD and a 5x zoom lens. The EasyShare Z740 features an 1.8-inch LCD screen, 18 scene settings, and 32MB of internal memory. It costs £240 plus VAT, and is available with the Printer Dock Series 3, which combines charging with the ability to print 6-x-4 photos, for £305 plus VAT. The EasyShare Z700 has 17 scene modes, a 1.6-inch display and 16MB internal memory. Both cameras feature an SD/MMC slot. The Z700 costs £155 plus VAT, or £220 plus VAT with the Printer Dock Series 3.

Kodak, [www.kodak.co.uk](http://www.kodak.co.uk)



## particleIllusion has OS X Wondertouch

Wondertouch has released the first version of its particleIllusion particle-effects software for Mac OS X. particleIllusion 2.0 SE is a cut-down version of the company's flagship tool, particleIllusion 3.0. The application creates faux-3D particle effects in 2D. As the system runs in approaching real-time, it can be much faster than rendering full 3D scenes. Potential uses for the software includes creating smoke, fire, explosions, water effects, sparkles, colourful artistic effects, and even strange undersea creatures. The full version has been used on films such as *Hellboy*.

It costs \$99 (around £52).

Wondertouch, [www.wondertouch.com](http://www.wondertouch.com)

## NewTek heats up SP1 for its VideoToaster 4

NewTek has released Service Pack 1 for VT4, its integrated video production suite for live broadcasting. The lead feature in SP1 is colour matching, which offers the ability to match the colour of multiple clips to a single reference frame. SP1 also includes the ability to play back audio clips before conforming has completed, the ability to write separate audio files from VT-Edit for each audio channel and italics support for image layers in VT-Edit, and separate shadow layer. Video Toaster now offers better optimized native reading of compressed DV audio from files and better error checking for DV.

NewTek, [www.newtek.com](http://www.newtek.com)



## Canon debuts 4x zoom PowerShot A510 cam

Canon has announced the debut of the PowerShot A510, a 4x-zoom, 3.2-megapixel mid-range digital compact camera. It features 20 shooting modes, VGA movies, a built in flash and direct printing. The lens is equivalent to a 35mm 35-140mm zoom and has a maximum aperture of between f/2.6 and 5.5. Canon claims that the 9-point rear focus system gives more efficient focusing to limit power consumption. The 20 shooting modes include eight 'Special Scene' modes for difficult lighting conditions. It costs £170 plus VAT.

Canon, [www.canon.co.uk](http://www.canon.co.uk)



18 DIGIT



## LightWave 8.2 to boost rendering

NewTek has released a free update for its LightWave 3D modelling, animation, and rendering software. Version 8.2 improves the rendering engine by boosting anti-aliasing and image reconstruction filters, and adds a redesigned UV engine that works across both the modelling and animation applications. The render core gains new Pixel Lattice Deformation technologies for anti-aliasing. The new image reconstruction filters affect how the final image is constructed at a sub-pixel level. Five filters are included: Classic, for a look closest to original LightWave filter; Box, where samples are weighted the same and an average value used; Gaussian, for softer edges; Lanczos, for sharper edges; and Mitchell, which NewTek says provides results mid-way between Lanczos and Mitchell. A Mosiac render mode has been added to the VIPER preview system.

The new UV mapping engine features a UV Map Interpolation modes for Subpatch objects, a UV tear-off function that removes the need to unweld points for most UV edit functions, and allows multi-selection of UV Maps and user-selectable wireframe colours for UV Maps. LightWave improves the IK Booster System by adding an onion-skin feature to the Ghost mode and enhanced functions for loading, saving, copying motion data among hierarchies. IK Booster is now supported within the DopeTrack.

The update can be downloaded from the NewTek Web site. The full version of LightWave 8.2 costs £899 plus VAT and is being offered with a free copy of RealViz ImageModeler 4.

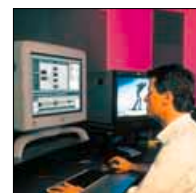
NewTek, [www.newtek-europe.com](http://www.newtek-europe.com)

## Sonic Solutions pledges support for next-generation Blu-ray, HD DVD

Sonic Solutions has formalized plans to support both the Blu-ray and HD DVD next-gen DVD standards in its authoring applications. The company is working on systems for professional HD DVD production to be launched in the summer. The systems are expected to be similar to Sonic's Scenarist and DVD Creator products – which are aimed at high-end creation of discs. Sonic is also working with Panasonic to create systems for authoring media in Blu-ray format.

According to Sonic, Panasonic will contribute elements of the Blu-ray technology that will allow Sonic to build an authoring system. The systems will be aimed at those producing Blu-ray discs of Hollywood films. No date has been set for shipping systems to clients. Blu-Ray, along with rival HD DVD, are the two major standards competing for the next generation of DVD devices. Both formats have been developed as consumers and content creators have sought to cram ever-more complex information and rich media content onto optical storage media.

Sonic, [www.sonic.com](http://www.sonic.com)



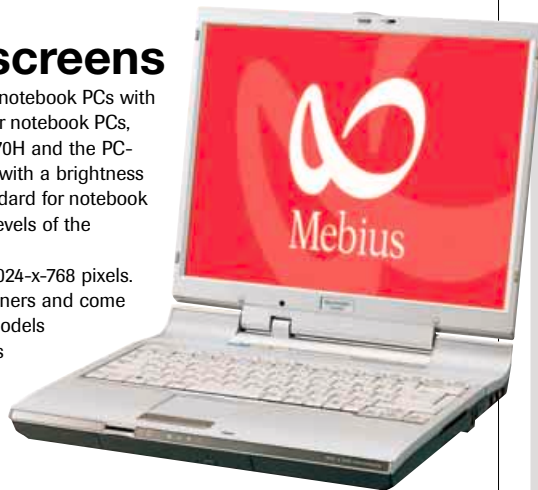


## Sharp, bright screens

Sharp has put on sale two multimedia notebook PCs with screens the brightest in the industry for notebook PCs, according to the company. The PC-XG70H and the PC-XG50H have 15-inch TFT-LCD screens with a brightness of 630 cd/m<sup>2</sup>, well above industry standard for notebook PCs, and approaching the brightness levels of the company's LCD TVs.

The screens have a resolution of 1,024-x-768 pixels. Both models have built-in analog TV tuners and come with remote controls that enable the models to link to the Internet and other devices such as DVD players. The PC-XG70H comes with a 160GB hard-disk drive, and the PC-XG50H with an 80GB disk.

Sharp, [www.sharp.co.uk](http://www.sharp.co.uk)



## ATI intros its Radeon X800

ATI has introduced its Radeon X800 XT Mac Edition, a new \$499 graphics card specifically for Power Mac G5s. The new card occupies a single expansion slot and can provide double the performance of a Radeon 9800 card. ATI bills the X800 as the world's fastest AGP VPU. [www.ati.com](http://www.ati.com)



## WiebTech in Mac storage

Wiebtech has introduced six storage products for the Mac platform: UltraGB+, Super DriveDock+, Bitty Dock, RackFire+ and MicroGB+. UltraGB+ comes with FireWire 400 or FireWire 800, as well as a USB 2.0 port, and uses and AC adaptor as it can draw its own power. [www.wiebtech.com](http://www.wiebtech.com)



## Gadgets: 3D phone home

Samsung has developed a mobile phone that can sense movement in 3D and respond by performing actions such as dialling numbers. The SCH-S310's motion sensing system allows users to, for example, draw a number three in the air to dial a three, said Samsung. [www.samsung.co.uk](http://www.samsung.co.uk)

## SanDisk adds USB to SD card

SanDisk has developed an SD (Secure Digital) memory card that includes a built-in USB connector so the card can be directly plugged into a computer. The card has a hinge in the centre and folds back on itself to reveal a thin USB connector. The card, which was designed in-house by SanDisk, removes the need for an SD card adaptor.

SanDisk, [www.sandisk.com](http://www.sandisk.com)



## Matrox brings 30-inch LCD to PC

Matrox has announced the Parhelia DL256 PCI, a PCI graphics card with 256MB of RAM that's designed to be used with high-resolution LCD displays that use dual links, such as Apple's 30-inch Cinema HD Display. LCD monitors with high native resolutions, such as the 2,560-x-1,600 30-inch Cinema HD Display, generally require two DVI connections to provide the video signal. The Parhelia DL256 PCI is a 64-bit, 66MHz card that can be fitted to any 32/64-bit PCI or PCI-X slot. It features dual 400MHz RAMDACs and supports dual DVI resolutions up to 2,560-x-1,600, as well as VGA displays up to 2,048-x-1,536.

As well as running a high-resolution LCD display, the card can also run a separate S-video or composite video output for previewing media from Premiere Pro, After Effects, Photoshop, Combustion, 3DS Max and LightWave 3D on a PAL monitor. The Parhelia DL256 PCI costs \$699 (around £375) in the US. UK pricing has yet to be announced.

Matrox, [www.matrox.com](http://www.matrox.com)



## E-on is shipping Vue 5 Pro Studio

E-on Software is now shipping Vue 5 Pro Studio, a natural 3D creation tool for advanced digital artists, as well as three new expansion modules for Vue 5 Esprit. Vue 5 Pro Studio comprises Vue 5 Esprit, with the three expansion modules - Botanica, LightTune and DeepAccess - plus the Mover 5 module, in an integrated package, according to e-on software. Vue 5 Pro studio is available for the Mac OS X and Windows 2000/XP for \$399 (around £220). Vue 5 Esprit costs \$249 (£138) and the expansion modules cost \$99 (£55) for Mover 5, \$69 (£38) for Botanica, \$59 (£33) for DeepAccess and \$39 (£22) for LightTune.

E-on Software, [www.e-onsoftware.com](http://www.e-onsoftware.com)



## 'Photo' LCD

CTX has launched its 19-inch F973 LCD. The F973 is initially available as with a VGA connection for £279 plus VAT, with a DVI model called the F973L expected soon. The F973 uses CTX's Neon-Life Visual Technology, which the company claims offers brighter colours and contrast, more detailed pictures and better display of non-native display resolutions. The monitor has a native resolution of 1,280-x-1,024 and a response time of 12ms. It has built-in speakers and a detachable foot and bar holder.

CTX, [www.ctxeurope.com](http://www.ctxeurope.com)







## CORBIS ACQUIRES ZEFA

[www.zefa.co.uk](http://www.zefa.co.uk), 020 7079 0540

US-based image company Corbis has acquired Zefa, the largest European stock company, and the third-largest worldwide. Zefa images will be available from [www.corbis.com](http://www.corbis.com) sometime in the spring, while images are still available for purchase and download from the Zefa Web site: [www.zefa.co.uk](http://www.zefa.co.uk). Corbis says the addition of Zefa's imagery to its portfolio will improve its market share in European markets, as well as offer its existing customers access to Zefa's "fashion-forward photography".

main picture. 10110000920, 2. 10110000481,  
3. 10110000712, 4. 10110000472



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## NEW MOTION FROM DIGITAL VISION

[www.digitalvision.com](http://www.digitalvision.com), 020 7378 5500

Digital Vision has released over 450 new motion clips. The clips are shot to a specific brief based on input from customers, according to the company. The motion clips are available from the revised Digital Vision Web site, and clients can study large previews and even clip storyboards before they download the individual clips. Prices range from £80 to £199 plus VAT.



5



6



## ARTBEATS KING OF THE CHATEAU

[www.artbeats.com](http://www.artbeats.com)

Artbeats has released *French Countryside*, a series of 40 motion clips featuring picturesque chateaus, castles, and quaint villages in France. The collection is available for \$249 from the Artbeats Web site. Clips come in D1 NTSC 720-x-486 resolution. The company says that the collection: "includes a wide array of exquisite imagery that illustrates the true romance of France."



## OXFORD SCIENTIFIC TAKES ON PHOTOTAKE


[www.osf.co.uk](http://www.osf.co.uk), 020 7836 5591

Oxford Scientific (OSF) has announced that it will represent *Phototake*, a collection of science photos. World-renowned scientists, photographers, and medical illustrators have created the images for the collection, which covers categories such as science and technology, microscopy, and medicine. The images can be found at the OSF Web site.

1. 00002542-001, 2. 00002278-001, 3. 00007636-001



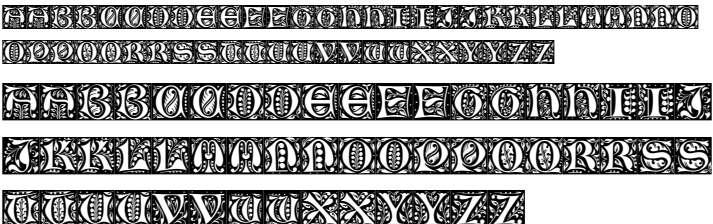
BODINI 26 FAMILY	REGULAR / BOLD	\\([@%\$!])\\
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FLEURONS GRANJON FAMILY	REGULAR	
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GOUDY THIRTY FAMILY	REGULAR	\\([@%\$!])\\
LTC Goudy Thirty Alt	AaBbCcDdEeFfGgHhIiJjKkLlMmNnOoPpQqRrSsTtUuVvWwXx YyZz1234567890 AaBbCcDdEeFfGgHhIiJjKkLlMmNnOoPp QqRrSsTtUuVvWwXxYyZz1234567890	

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LTC Deepdene Italic Swash	AaBbCcDdEeFfGgHhIiJjKkLlMmNnOoPpQqRrSsTtUuVvWw XxYyZz1234567890 AaBbCcDdEeFfGgHhIiJjKkLlMmNnOoPp QqRrSsTtUuVvWwXxYyZz1234567890	

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JACOBAN FAMILY	REGULAR	
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**BODNI FAMILY**  
*Lanston Type Company* [www.p22.com](http://www.p22.com)  
 The P22 Type Company has released the first fonts from its newest division, The Lanston Type Company. P22 acquired the Lanston Type Company in November 2004, and has been busy re-mastering the fonts. The new collection – *Lanston Collection A* – is now available, and fonts can be downloaded from the P22 Web site. The whole collection of 41 individual styles plus eight OpenType fonts costs \$350, and is available for both Mac and Windows.  
 Bodni was recently voted one of top 100 fonts of all time by the Type Directors Club of New York. It's available for \$19.95.

**FLEURONS GRANJON**  
*Lanston Type Company* [www.p22.com](http://www.p22.com)  
 This suite of over 100 decorative characters are attributed to Robert Granjon, and dates back to the late 1500s. The designs were re-drawn by Lanston in the 1920s. It is available from P22 for \$19.95.

**GOUDY THIRTY FAMILY**  
*Lanston Type Company* [www.p22.com](http://www.p22.com)  
 Described as a Gothicized Roman typeface, Goudy Thirty is another of Lanston's fonts to be re-mastered by P22. It costs \$29.95 for two styles, or \$19.95 for one style.

**DEEPENE FAMILY**  
*Lanston Type Company* [www.p22.com](http://www.p22.com)  
 Deepdene is a classic Frederic Goudy design. There are various price plans for this typeface. The whole set of nine styles costs \$69.95, while individual styles cost \$19.95 each.

**FLASH**  
*Lanston Type Company* [www.p22.com](http://www.p22.com)  
 Flash is an ideal alternative to Comic Sans, according to P22. It was designed by Edwin W Shaar in 1939. It costs \$19.95.

**JACOBAN FAMILY**  
*Lanston Type Company* [www.p22.com](http://www.p22.com)  
 This decorative initial font features four variations for up to four-colour layering. The set of eight styles costs \$49.95, and individual styles cost \$19.05.



# pulse

Be inspired by the latest happenings in the world of creative design

by Ed Ewing

## ^ BEANIE MONSTER

You can imagine the design conference where they came up with this idea: "Hey guys, let's knit the headphones *into* the beanie!"

And so it is that Burton Snowboards has teamed up with Motorola to bring wireless technology to the mountains.

Incorporating Bluetooth technology, the line includes a Bluetooth-enabled jacket (side panels), helmet (not pictured) and beanie (main photo).

The gear was unveiled at the US Consumer Electronics Show in January and should be available to buy in time for winter 2005/2006.  
[www.motorola.com](http://www.motorola.com)

## WARHOL FOR ALL

>>

Modern and contemporary art in the UK is booming as digital printing techniques make bold, striking canvases accessible at reasonable prices.

London company ThatWall makes those canvas art prints you see hanging on every trendy apartment or design studio wall at the moment.

The company has extended its range of modern art prints and mount options in an attempt to appeal to the more discerning buyer. It now offers more subjects, more colour and more sizes than before. So now you know where to go to look for something to hang on That Wall in your office. Designs can be ordered online from as little as £25.

[www.thatwall.com](http://www.thatwall.com)





## PRETTY IN PINK

&gt;&gt;

Rockdirect has produced a pink laptop to raise funds for Cancer Research UK. Following the success of Cancer Research UK's *Think Pink* campaign last year, Rockdirect was searching for a way to help.

"We are all too aware of the risk of cancer and we decided a pink notebook would make a statement and allow us to make a significant donation," says Rockdirect MD Nick Boardman.

The pink Rock Pegasus Ti will retail at £899 plus VAT. It has a 15.4-inch screen and is built around the Intel Centrino processor.

[www.rockdirect.com](http://www.rockdirect.com)



## TIME ARCHIVE NOW ONLINE

*Time* magazine has digitized its archive. There are now 266,000 articles online, searchable by subject. This is now one of the biggest historical news archives on the Web and dates back to *Time*'s first issue in March 1923 (above).

Available on subscription, users can search by date and keyword and can use the Find Your Birthday Cover function to buy, download and print magazine covers.

[www.timearchive.com](http://www.timearchive.com)



## NEW CAMERA PHONE

Consumer electronics maker BenQ is showing off its new mobile phone with wireless networking capabilities.

The P50 Smart Phone has a thumb keyboard, a 1.3-megapixel digital camera with integrated flash and digital zoom. Users can record and play MP4 (MPEG-4 Structured Audio) files, play video games, and have MP3 audio files as ringtones. The phone has a 2.83-inch touch-screen, weighs 170g and measures 4.7-x-2.4-x-0.8 inches.

Unveiled at the International Consumer Electronics Show in Las Vegas in January. It will cost about £400.

[www.benq.com](http://www.benq.com)

## CARO RETROSPECTIVE AT TATE

Sir Anthony Caro is widely regarded as one of the world's greatest living sculptors. Now a major retrospective at Tate Britain, presented in the artist's 80th year, surveys over 50 years of his work. On show are seminal pieces from the early 1960s, including the groundbreaking steel sculptures that established Caro's reputation.

Caro achieved widespread recognition in the early

1960s. He abandoned his earlier, figurative way of working which involved modelling in clay and casting in bronze, and began to make purely abstract works – sculpture constructed and welded in steel. Such works caused a sensation and heralded a revolution in art.

The exhibition runs from 26 January until 17 April.

[www.tate.org.uk](http://www.tate.org.uk)

## BOOM TIME

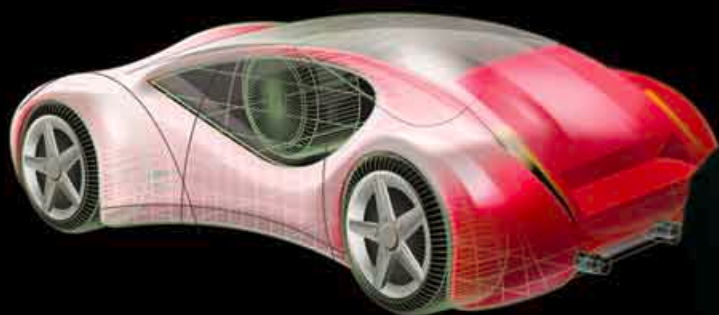
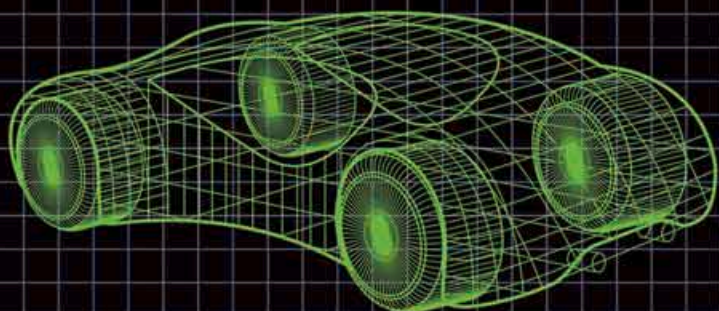
The iBoom Boombox for iPod is a good looking portable iPod speaker system. "It puts the 'boom' into your iPod, providing speakers and an amplifier to let you take the party anywhere," said Digital Lifestyle Outfitters spokesman Andrew Green.

"It's easy to use – just slip your iPod in the cradle of the iBoom, and take it to outdoor barbecues, swimming parties, on your boat, or even to the beach."

The iBoom runs off batteries but if it's plugged in using its AC adaptor, it actually charges the iPod as well as playing its music.

[www.dlodirect.com](http://www.dlodirect.com)





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[ati.com](http://ati.com)





# The design meat factory

**Designers across all media are devaluing their skills with hourly charging – and something has to change.**

When I was growing up, cultivating passable facial fluff wasn't my only dream in life. Design and creativity, along with an unhealthy appetite for technology, meant I'd spend my days dreaming of a world populated by clothes made from LCDs, animated tattoos, 3D movies, and the ability to have the daily newspaper beamed onto a sliver of plastic each morning. Perhaps I should have gotten out more, but while the facial hair duly arrived, much of the future hasn't.

Coupled with the avalanche of information gizmos and gonks, I always pictured the creative industry as achieving some kind of elite status. Designers and artists would evolve into a ruling class; wise beyond their years, they'd dazzle a loyal populous with their wizard-like creative skill. To the unwashed, it'd seem like magic. Creative folk would, each evening, retire to their golden towers to indulge in the fruits and chemical substances of their labour, and life would be great. For a young dreamer, the future was looking great. Only, that hasn't arrived, either.

Instead, design in the UK – while admittedly finding its feet after a really bad couple of years – is sometimes more meat factory than dream factory.

The problem is that client money sloshing around in the creative sector has taken a tumble over the past few years, and more people are flooding in to work in an industry that no-one is going to get rich from. Add the fact that creative companies have been chopped up into smaller concessions, and it's no surprise that design teams have fallen from hundreds, to tens, to a handful – each working in tiny studios and competing in an increasingly crowded landscape.

You needn't be an economist to guess where the industry could be heading. More people chasing less money and less business. **It means that studios are – out of sheer necessity – having to cut the throats of their neighbours over prices, offer more to clients, who themselves want to pay less.**

Designers, for example, are today increasingly pricing their services by the hour, rather than giving an overall price – a massive about face from a few years back. Nothing wrong with that, you might think.

But pricing design by the hour belittles the designer, and devalues their skills. It makes it easier for clients to grasp, sure, but what is the true cost?

People who flip burgers are paid by the hour, as are those who scrap aborted chewing gum off our pavements. Lawyers charge by the hour, for goodness sake.

Clients who pay by the hour understand only that they are buying chunks of time. It transforms design into nothing more than mere commodity; art as little other than tins of beans or packages of minutes. It's a worrying trend, because it places no value on the actual essence of design. The thought, talent, and sheer synaptic creativity that resonates through your work deserves more than an hourly wage. A premium should be placed on your creativity, else you may as well offer fries with the finished article.

**Matthew Beth**



# respond

Contact Digit. Get issues off your chest.  
Send letters to [dialogbox@digitmag.co.uk](mailto:dialogbox@digitmag.co.uk)  
Please note that personal correspondence cannot be entered into.

## We have a winner

**Congratulations to Adrian Roper of Roland Davies Animation, who won a FireGL X3-256 graphics card from ATI ([www.ati.com](http://www.ati.com)) in our competition in Digit 83.**



**Ian Anderson of The Designers Republic.  
Definitely not Chris Evans.**

## Sense and suitability

Issue 83 had letters effectively complaining about 'tastelessness' and also the use of swear words. Both were responded to in a cavalier attitude. Whilst using such explicit content in your magazine is entirely up to you, I wonder where it will stop by justifying it under the all encompassing 'Design' banner. Just because you can doesn't necessarily mean you should, which is perhaps where editorially control can be applied.

Heaven forbid that your readers should have different standards or views to your own. As you felt it appropriate to use the images and words to illustrate an article, we the reader have the right to offer our critique should it be held strongly enough.

I'm sure we all appreciate the reprinting of the offending pic as a passing salvo whilst weakened by the hysterical convulsions you suffered for your art.

Oh, and what really gets up my particular nose is the ugly blocked effect of the first letter in an article – but that's just me.

**Keith Woolford (an unashamed Mac user)**

**DIGIT:** *To be fair, David Leon's letter was hardly complaining about 'tastelessness' – it was focussed on Mr Leon's problem with the use of homoerotic content within our article on sex and design. If Mr Leon's letter had complained about the overall level of sexual content in the article, we would have provided a serious answer. However, the implicit argument within the letter was that other explicit content was OK – Mr Leon noted no issue with the highly sexualized images taken from Opium and Wonderbra adverts on the same page as the 'offending pic' – but homoerotic pictures were not. Considering this and some of the other ludicrous statements in the letter, we felt it right to mock.*

*More importantly, Mr Leon's letter was the only one at that point to criticize the article. We stand by our use of the pictures in the context of the article, as all were relevant and taken from high-profile campaigns from major brands. Reprinting the image was necessary to illustrate what the letter was about to readers who hadn't seen the original article (it was some months before).*

*The opinions of our readers are important to us and we take them seriously and without prejudice, as long as those opinions are also unprejudiced.*



## Horsing around with creativity

I have just received my latest issue of Digit and just had to reply to David Leon's letter. Now a lot of people might dismiss David as homophobic or worse but I think he is on to something. I like working with Photoshop, Poser and Bryce, on a laptop PC. I have always thought of the laptop as the female of the computer family, Photoshop as a work horse, Poser is just for masochists and as Bryce has not had an update for a while it is almost dead, but basically a man's program.

So that means that I am a sadistic, necrophilic, bestial homosexual. Or am I just a transsexual flogging a dead (male) horse?

**John Finch**

**DIGIT:** *We're not sure but we definitely don't want to see pictures (or print them, before we get more letters – Ed). We received many other comments on David Leon and his letter, but they were largely unprintable without setting the bad language debate off all over again.*

## Hidden treasures

Cheers for a great article on magazine cover design (Digit 83), but it seems these days that the physical cover of the magazine is at its lowest level of importance ever. Most top titles seem to hide their covers behind gaudy silver bags featuring huge, clashing text designed – if you can call it that – to hide the low colour count available when printing on plastic. With free CDs, handbags, beer tokens and chocolate bars, it's easy to forget that you're buying the magazine for something to read.

So props to Digit for sticking its CD where it belongs and, with the occasional exception to give us complete free issues, letting a great piece of art catch our eyes in the magazine shop.

**Gavin Christian**

## Return of the ginger menace

I wondered what happened to Chris Evans when he left the telly and now I know he's running Designers Republic under an assumed name. Well done.

**Karen Mifty**



# Hello

Big-Active Limited

## ★ star letter: Reading the wrong words

I am a very happy Digit subscriber, so first of all please accept my gratitude and thanks for the excellent magazine you manage to produce every month.

I was initially concerned in the December issue about the use of a very prominent swear word in the business card article. Digit may be aimed at an adult audience but it is not adult material. There has never been an issue, until December, which I have not enjoyed in my sitting room, reading with a cup of coffee and my children playing around me. In my family, I have a lovely and bright six-year-old boy who is currently learning how to read, along with all other six-year-olds. He has got to the stage of knowing letters and how to form words from them. He regularly practices by seeing words printed all over the place – be it on the telly, a milk carton, some packaging or even a Digit magazine. He will regularly say “Dad, what does this word say: S-O-M-E-T-H-I-N-G”. You can see where this is going I’m sure.

The plain fact is that the printing of that swear word in my favourite magazine was offensive to me, but also meant I could not leave that magazine lying around my house, or enjoy reading it amongst my family because it was so incredibly obvious and bold. I simply ask that you take complaints seriously and you try not to use shock designs in the future. I personally felt the article would have been perfectly useful, enjoyable and informative without reference to this particular design. There were in fact plenty of other excellent examples.

Revd Evan Cockshaw

**DIGIT:** *Thanks for your praise and we apologize if you feel offended by the business card – a more polite version of which appears above. It was unwise of us to include it so large in the feature – though its inclusion at all is pertinent as many creatives would love to have such a card to deal with unwanted sales people. Overall though, we will continue to include designs that some may find shocking, as long as they are relevant – such as the sexuality of fashion or the necessary impact of car safety campaigns.*

### Write in & win

This month, the star letter wins a copy of *On the Road with Your Digital Camera* by Michael Freeman worth £16.95. It's the essential, all-in-one handbook for the digital photographer on the road and the definitive guide to planning a digital photographic assignment, trip, or holiday. The book is aimed at both professional and prosumer hobbyist photographers and is packed with detailed information on file downloads and backups, email and FTP image transmission, batteries and international power supplies. It's written by one of the most widely acknowledged experts in digital photography, an author who has travelled and taken pictures all around the globe.

To order your copy of *On the Road with Your Digital Camera* at a special price of just £13.45 plus FREE postage and packing (worth an additional discount of £3.50), visit [www.ilex-press.com/digit](http://www.ilex-press.com/digit).



### EDITORIAL

Editor-in-chief **Matthew Bath** [matthew@digitmag.co.uk](mailto:matthew@digitmag.co.uk)  
Editor **Lynn Wright** [lynnw@digitmag.co.uk](mailto:lynnw@digitmag.co.uk)  
Reviews editor **Neil Bennett** [neilb@digitmag.co.uk](mailto:neilb@digitmag.co.uk)  
Art editor **Chris Hodgson** [chrish@digitmag.co.uk](mailto:chrish@digitmag.co.uk)  
Sub editor **Andy Penfold** [andyp@digitmag.co.uk](mailto:andyp@digitmag.co.uk)  
Online development editor **Dan Sullivan** [dans@digitmag.co.uk](mailto:dans@digitmag.co.uk)  
CD editor **Richard Clooke** [richard\\_clooke@idg.com](mailto:richard_clooke@idg.com)

### ADVERTISING

Advertising manager **Marcus Wilkinson** [marcusw@digitmag.co.uk](mailto:marcusw@digitmag.co.uk)  
Account manager **Matthew Bennett** [matthewb@digitmag.co.uk](mailto:matthewb@digitmag.co.uk)  
Classified sales executive **Andrew Pamphilon** [andrewp@digitmag.co.uk](mailto:andrewp@digitmag.co.uk)  
Contact Digit advertising on 020 7071 3681

### MARKETING

Marketing executive **Jaime Parker** [jaimep@digitmag.co.uk](mailto:jaimep@digitmag.co.uk)  
Events & marketing executive **Sam French** [samf@digitmag.co.uk](mailto:samf@digitmag.co.uk)  
Marketing and circulation manager **Jim Birch** [jimb@digitmag.co.uk](mailto:jimb@digitmag.co.uk)

### PRODUCTION

Deputy production manager **Richard Bailey** [richardb@digitmag.co.uk](mailto:richardb@digitmag.co.uk)  
Head of production **Sharon Bird** [sharonb@digitmag.co.uk](mailto:sharonb@digitmag.co.uk)

### EVENTS

Events manager **Anne Ridyard** [anner@digitmag.co.uk](mailto:anner@digitmag.co.uk)

### PUBLISHING

Editorial director **Simon Jary** [simonj@digitmag.co.uk](mailto:simonj@digitmag.co.uk)  
Commercial director **Mustafa Mustafa** [mustafa@idg.co.uk](mailto:mustafa@idg.co.uk)  
Managing director **Kit Gould** [kit\\_gould@idg.com](mailto:kit_gould@idg.com)

### CONTRIBUTORS

Deborah Bonello, Michael Burns, Joanne Carter, Simon Danaher, Simon Eccles, Ed Ewing, Ben Fran, Jan de Schrijver

### TYPEFACES

Imago BQ, EvoBQ, Helvetica, **JNeen**

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### ADDRESS

99 Gray's Inn Road, London, WC1X 8TY  
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If we were... Movie monsters



Matt Lynn Chris Neil Andy Dan

# STATE OF THE NATION

BY ED EWING

**Things on the ground are looking up, but an increasing number of small agencies are chasing tighter budgets. Meanwhile designers have to skill-up and work across boundaries. Digit reviewed the surveys and spoke to people at the top and bottom of the industry to bring you the state of the nation in 2005.**

**M** I think the industry's doing much, much better now. Everyone was affected by the dotcom meltdown, not only our agencies but our clients too. But over the past 12-18 months a much greater sense of optimism has developed."

Sue Thexton, deputy chair of the interactive entertainment committee at BAFTA, and ex-European vice president for Macromedia is on a roll – and she's intent on taking the whole digital design and content industry with her.

"What has changed is there is a general acceptance that the interactive element in a campaign, whereas before it was an add-on, is now a given."

Thexton is fairly representative of what the digital design industry is feeling as we

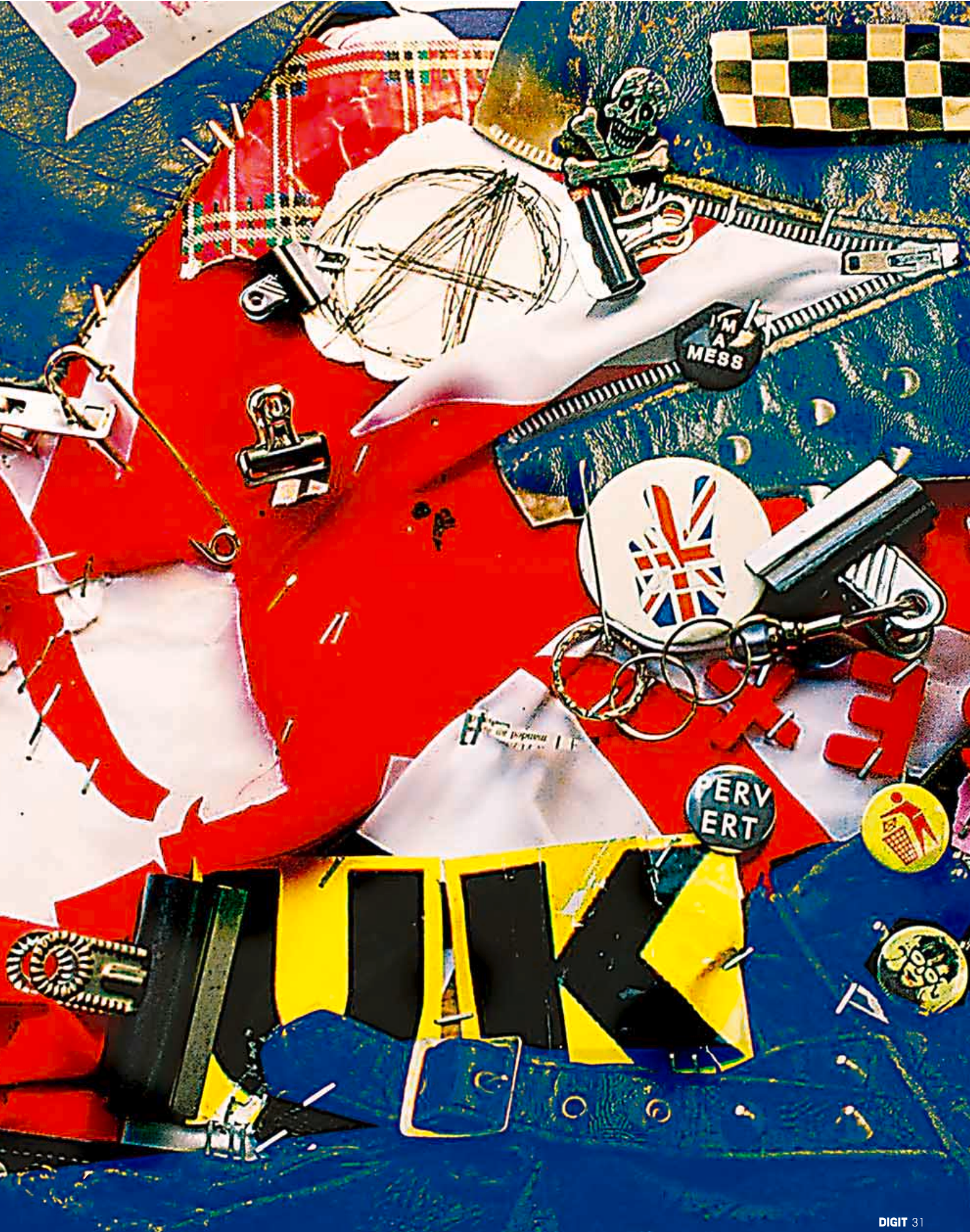
sail into 2005. The industry has been through tough times – the post-Y2K, -dotcom and -9/11 mother of all hangovers – and is now on the brink of something good. It's not yet filtered through to the industry-wide surveys from the likes of Skillset and the British Design Initiative, but the people in the industry are sounding confident.

Resh Sidhu, art director at Skive Creative is one of those people: "The industry is in 



Illustration by Peter Quinnell, [fletcher-quinnell@lineone.net](mailto:fletcher-quinnell@lineone.net)







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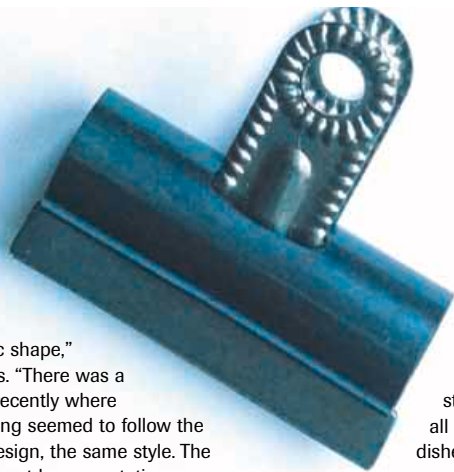
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fantastic shape," she says. "There was a period recently where everything seemed to follow the same design, the same style. The Web almost became static."

"But towards the last quarter of 2004 the internet saw a huge surge in innovative and groundbreaking sites that stimulated designers and encouraged healthy competition between agencies."

Fionnuala Duggan, deputy chair of the Digital Content Forum (DCF), thinks the same. From her eyrie overlooking the DCF – which reports to the government about the state of the digital content industry – she sees positivity all around. "Everywhere you look digital media is in the ascendancy. The iTunes music store has transformed how people think about buying and using music. Sky has pioneered leading-edge digital studio design and integrated interactivity into everything they do. *The Incredibles* has raised the bar again in digital, animated features. Google's successful initial public offering has helped boost the tech sector overall. Broadband is becoming ubiquitous and 3G networks are at last really rolling out. All in all, there has never been a more dynamic time in digital media."

Back on the ground at Skive Creative, a digital strategy, design, and production company of 12 people, the sense of excitement about the industry is palpable. A pop-up on its Web site announces 'Web designers needed,' and for Sidhu, who worked for two years in print before going digital just as the dotcom boom was fizzling out, things are looking up. "Skive is really in a very exciting period. We're moving fast and are already hiring designers and developers. There is a very good vibe in the office." However, while Sidhu is excited about the current industry fizzing, she unwittingly sounds a note of caution: "There are certainly a lot of designers coming into the industry."

## THERE'S NEVER BEEN A MORE DYNAMIC TIME IN DIGITAL MEDIA

FIONNUALA DUGGAN, DCF

We've seen a surge in designers from Europe

– especially Poland – and South Africa, and I certainly think studios will have designers from all over the globe. What slightly disheartens me is only a small percentage are good quality. With the emergence of 'buy a Web site' templates, I see a lot of designers assuming that Web design is very easy and simple, when in fact it is a skill and talent that takes time to learn."

### DESIGN AS COMMODITY

"Everything in the garden is not rosy," says Maxine Horn, founder of the British Design Initiative (BDI) and an industry veteran. "Fifteen years ago my agency charged a designer out at £480 a day. Agencies today are not charging very much more. They should be charging up to £900 a day but they're not." This, says Horn, is because of the "fee war" that the industry is currently engaged in.

"Design has become a commodity buy," she says. "Designers and agencies are not selling their expertise now, they are selling time. There are more people in the industry, more people coming into the industry – often not very good – more small agencies competing against each other, and the result is a fee war."

"Anyone with a Mac and a copy of Photoshop can call themselves a designer, but the core skills of a designer are to translate the business case into design terms. It's a valuable skill, but the industry isn't selling itself on that skill, it's selling itself on time."

Horn set up the BDI 12 years ago and carries out the BDI Valuation Survey every year. Last year it surveyed 1,600 design companies. The results make stark reading. Turnover has dropped 26 per cent from £5.3bn to £3.9bn; fee income has dropped from £3.6bn to £3.1bn; London turnover has dropped 15 per cent; yet number of employees has risen from 68,000 to 70,000.

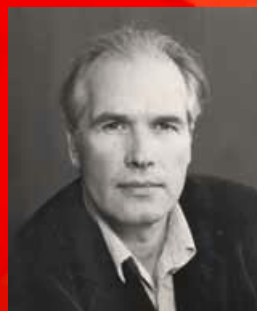
The redundancies of 2001/02 had a marked affect on the industry. "Designers don't stay redundant for very long," says Horn. "They get together with friends and set up on their own." The industry is now bottom heavy, with 58 per cent of the UK's 4,000 design companies made up of less than five people.

The result is that small companies are charging less. In 2004 there were 9,475 less people employed in mid-size companies (6-49 employees) and 11,000 more employed in big companies (50+ employees) than in 2003. In short, big companies are getting bigger while medium-size ones are being undercut by the small companies – which often offer lengthy industry experience at lower rates.

## DICK POWELL

Seymour Powell, D&AD President Elect

[www.seymourpowell.com](http://www.seymourpowell.com), [www.dandad.com](http://www.dandad.com)



"I would say we are cautiously optimistic about the state of the design industry in Britain today."

"We're in the middle of a period of change and have been in it for a while and we don't yet know where we're coming out. Much of the manufacturing in this country has gone to China. It's a myth peddled by the government that the creative and innovative skills will continue to prosper here."

But, it's ridiculous to imagine that the Chinese won't be able to match our creative industries – they're already doing it.

"It's analogous to what Japan did after the War in 30-35 years, what Korea did in ten years – China is doing it in three or four."

"Yes, that scares us a great deal. It's happening in my arena – mass-produced consumer products – but it will happen in all areas of design eventually too. But there is always a cultural dimension – we will always need designers who understand and interpret the culture of local markets. It is also providing opportunities for many UK creative companies to work with China and also in China."

"We'll see a continuing blurring of boundaries in hardware and software. One of the reasons Apple is so good is because they have hit home on integration. They design the software and the hardware and as a result are miles ahead on usability."

"Designers are a desperately underpaid lot – very few make money in this industry. Yes, you can make a decent living but we all do it because it's creatively rewarding and we can make a difference."

"Design is a bridge between art and commerce, between culture and industry, that's what we do. We're not artists, but you can never let go of the artistic and cultural side of what we do."

## BEN CLAPP

Creative Director at Tribal DDB

[www.tribalddb.com](http://www.tribalddb.com)



"We're definitely in good shape. I think we're all governed by the advertising spend as a whole, and that's obviously recovering from the slump of recent years."

"There's also been a shift in perception of interactive – one that has partly come from clients, but also from our perceived effectiveness in marketing as a whole."

"I'm optimistic about 2005."

I think the mass take-up of broadband is starting to give our industry the touch of 'Hollywood' that it needs. In a year's time, people will scoff at puny 512k connections and fly off on their hoverboards, laughing.

"Looking forward, I think community creation is something that none of our bigger campaigns have fully exploited yet. I really admired Specialmoves' *Church of Fools* last year, and I think 3G handhelds could push that area into completely new areas."

"We've won a lot of work recently and have been actively recruiting since last summer as well as beefing up our freelance roster. I think a lot of people have settled for lower salaries to keep their jobs through the downturn and they are seeing their salaries rising again, though maybe not to pre-crash levels! As more talent enters, a few will get paid a lot more. Mediocrity will become cheap."

"This time next year I want to be standing on a podium, hopefully at D&AD and not Stringfellows (but maybe both!)."



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**TURNOVER DOWN, PAY UP**

Richard Eisermann, director of design and innovation at the Design Council agrees the message is a mixed one. "On one hand, turnover in the sector is down by 26 per cent compared to last year – undercutting between firms seems to be the biggest reason for that. On the other, employment is up by 3 per cent overall and salaries have increased to well outpace inflation, particularly for positions of greater responsibility such as creative director, where the pay rise is over 12 per cent. As a result, firms are feeling the squeeze between reducing fees to win work and hiring the best people to get that work done."

He puts the grass roots feeling of enthusiasm down to a change of priorities on the client side. "The feeling on the street is that there is a lot of work around, particularly for smaller firms. The general rise in awareness of design as a strategic business tool in larger companies is helping that. The fastest growing companies are the most dedicated users of design services – 45 per cent of companies that don't use design compete mainly on price."

Companies are changing the way they do things he says. "Heineken is now spending more money on developing applications for mobile phones than on television advertising to market its beer. That says a lot about how priorities have changed in response to new technologies and ever more sophisticated consumers."

**NEW TECHNOLOGY**

When it comes to technology, "The options are staggering," says Eisermann. "Which platforms will win? Which companies will lead? Where is convergence headed and how will we back the right horse? The answers, of course, lie with designers who are able to quickly ascertain what people really need, not what technologies manufacturers need to get into the marketplace."

At the Digital Content Forum, Fionnuala Duggan is happy to forecast the future: "The growth of broadband, the deployment of Wi-Fi and the ubiquity of handheld devices will fuel gaming and Web use. Mobile TV is a particular interest as 3G becomes widespread and there

**DOMINIC LEVEL**

emuse technologies  
www.emusetechologies.com



**Spelling Test** for example. Emuse has been nominated for an interactive Bafta for it.

"This year is looking quite buoyant. The trend towards better design is continuing, as well as contextual interactivity, interactivity really relevant to the show. Instead of simply voting using the red button, broadcasters are building in different levels of interactivity that add value to the viewer's experience."

"The interactive agencies are using Modelstream to create ideas, the broadcasters are using it and the media sales companies are using it to pitch ideas to their advertising clients. Things are looking rosy."

**FIONNULA DUGGAN**

Chair, Digital Content Forum  
www.dcf.org.uk



themselves up to date with the latest digital tools and developments in their field.

"The reason for the success of *The Incredibles* is that the script and story are fantastic – in parallel with a brilliant creative and technical execution. So the advice is to equip yourself with a fundamental core competence – such as design or writing skills – and continue to stay ahead of the curve with new tools used for the execution of your art."

Emuse has developed Modelstream, the first widely available design tool specifically for interactive TV (iTV).

"Currently, iTV design is so new that there aren't many design agencies out there doing it. In fact, getting designers who have the right experience for designing iTV content is difficult. A typical problem is that they come in with a Web-based approach, which doesn't work when you're looking at a TV from 15ft away."

"Last year was pretty good. Design and creative execution became more important than simply functionality. The trend is towards developing the look-&-feel of the service. A big success was the Great British series on BBC – interactive viewers could join in on the Great British

"We see growth across all sectors in 2005. Mobile TV is of interest, broadcast will continue to lose ground to digital channels and there will be a push in interactive TV as audiences are now quite used to being involved. Television companies too have come to understand the power of allowing audiences to interact and participate."

"Taken together, the growth of broadband, the deployment of Wi-Fi, the continuing improvement in the price/performance ratio of PCs and the ubiquity of intelligent handheld devices will fuel the growth of gaming and other Web use."

"Technical excellence will be taken as a given – but people need to be flexible and expect to have to keep

will be a push in interactive TV."

At agency level, Skive Creative's Sidhu is excited about the integration of Flash Video into sites. "I think many Web sites will use this amazing tool and create some terrifically realistic sites that push the boundaries of what is possible online. I always get excited when I see sites that break the mould and Flash video and 3D animation is certainly an area you can do that."

Certainly Flash is the hottest must-have programme in a Web designer's toolbox. New media recruitment specialists Corps Business back up that on-the-ground experience. "Flash is hot," says their spokesperson. "It's graphic designers training up to do Web design." Corps saw a 575 per cent upsurge in demand for their Flash training courses in 2004. Dreamweaver, InDesign, Final Cut Pro and PhotoShop courses also saw demand more than double.

Designers upskilling is a good sign for the industry, say most observers. But it's also a sign of increasing pressure on designers to be able

to perform more than one trick.

**TOP DOG** Dominic Level is chief operating officer at emuse technologies. Emuse have developed Modelstream for interactive TV (iTV) design. "The idea for Modelstream is that it becomes the Adobe of the iTV world," says Level. Currently however, there are only two agencies specializing in design for iTV: Weapon7 and BBC Broadcast. This emerging sector is demanding new skills from designers.

"The perfect designer would be someone who has long experience in broadcast TV, is a good Web designer and understands traditional graphic design," says Level. "It means they are more expensive."

Dick Powell is one of Europe's best known product designers and the president elect of D&AD. He agrees that: "blurring boundaries mean graphic designers will have to be more flexible in what they offer". But he also argues for a return to core skills: "Sure, designers need the skills to drive the tools, but we also want designers to be creative. If there's a dying

art that I'd love to have back it's drawing. With drawing you can communicate conceptual intent while only actually defining ten per cent of the idea. With CAD you need to define and understand 90 per cent of the idea to achieve the same level of communication. Sketching is an incredibly fluid communication medium."

"In saying that, anybody who is a real star in their chosen tool – Alias, Photoshop, Flash or whatever – is never going to be out of work. When I was lecturing, I used to say to students, 'make sure you're the best, the top dog, in at least one skill. You'll never be out of a job.'"

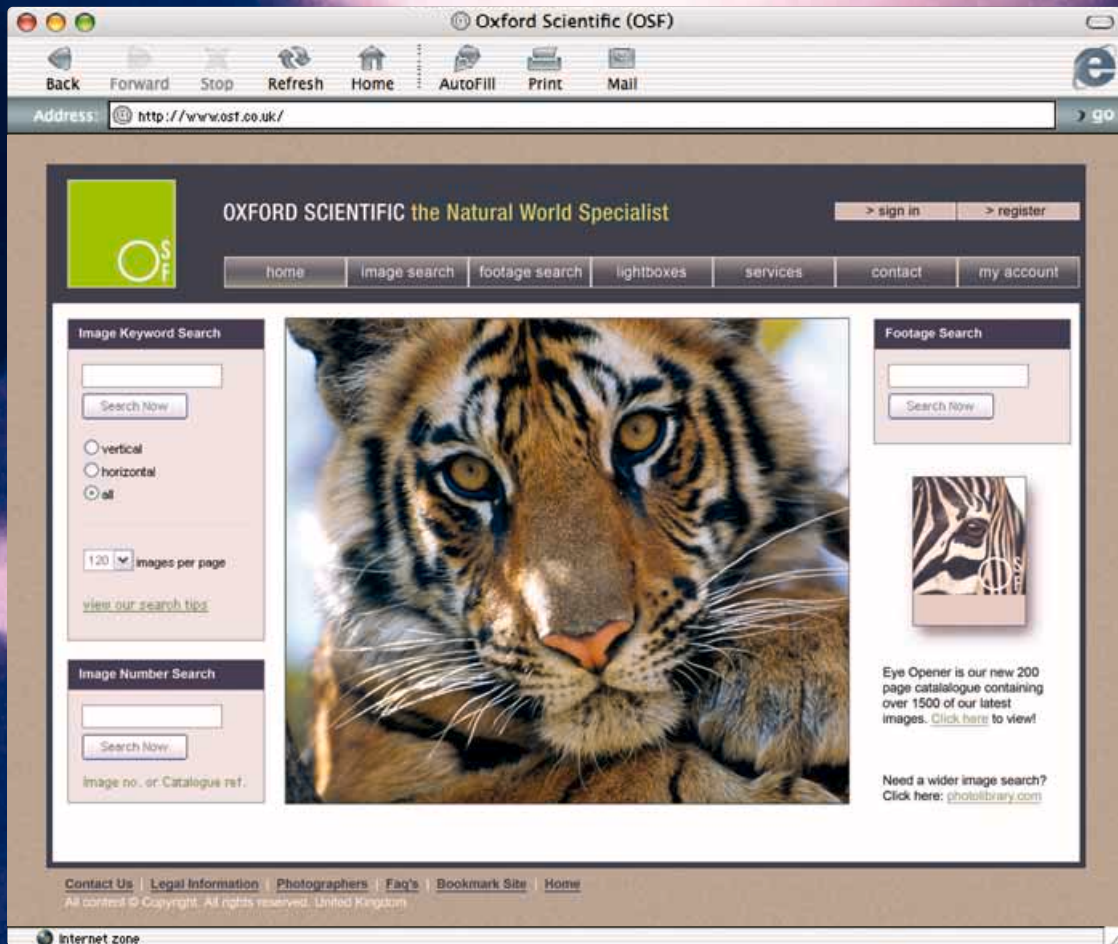
**DESIGNERS NEED THE SKILLS TO USE THE TOOLS BUT WE ALSO WANT DESIGNERS TO BE CREATIVE**

DICK POWELL, D&AD





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Chair, British Interactive Media Association  
[www.bima.org.uk](http://www.bima.org.uk)



"After a few really hard years, 2004 felt like we had put the worst behind us. The year was one long pitch frenzy. There were a lot of big clients who were ready to invest in new technologies – not just the Web. But it wasn't like a return to those heady pre-millennium days.

"Of course, digital media is composed of several sectors, and not all of them are at the

same point of maturity. So while Web seems to be consolidating, interactive TV and mobile are at slightly earlier stages.

"I think as long as the practitioners are able to adapt, it will be much better than before. But there are mini crises looming, like skill shortages, especially for senior roles. And training is likely to become much more fundamental to both organizations and individuals.

"Commercially, the future looks great. There is a lot of work around and that trend looks like it will continue. My concern is for the state of innovation. This isn't really the best environment for real research and development, as that often doesn't thrive when it has to deliver to schedule. Having said that, Apple is showing us that it is possible to do both, which is fantastic.

"Privacy and information are going to continue to be big issues and BIMA is keen for the interactive industry to seize control of the intellectual property rights (IPRs) that are rightfully theirs, however much their clients try to deny it.

"Partly because a lot of people drifted out of the industry between 2001-2003 there is a lack of really experienced people around now, in every field. If it gets really pressured, salaries will start to go up. What is happening is that companies are getting more confident and hiring rather than relying on freelancers. So there are a lot more jobs around."

**UK DESIGN AGENCIES**

Number of agencies: 4,000  
 Total employed: 70,000  
 Percentage employing ten people or less: 70

**INDUSTRY MONEY 2004**

Turnover: down in 2003/4 by £1.4bn to £3.9bn (-26 per cent)  
 Fees: down by £500m to £3.1bn  
 Overseas income: down by £100m  
 London market share: down by £400m to £2.2bn  
 (56 per cent of the industry turnover)  
 (British Design Industry valuation survey 2004)

4%

**Wales**

4%

**South West  
England****MONEY**

The British Design Industry (BDI) Valuation Survey 2003/2004 shows the design industry has been struggling to make money since 2000.

The end of Y2K activities, the dot-com crash and then 9/11 hit the industry hard. In 2000/01 the design industry had a turnover of £6.7bn, 2001/02 it was £5.9bn, 2002/03 it was £5.3bn and by 2003/04 it had shrunk to £3.9bn. Fees also shrank: from £5bn in 2000 to £3.1bn in 2003/04. But the number of companies stayed roughly the same – 4,000 in total across the design industry.

The problem, says the BDI's Maxine Horn, is that companies have struggled to maintain an appropriate fee structure. The proliferation of small agencies – 70 per cent of companies employ less than ten people – means companies compete on price alone. "Independent designers charge from

£350-£600 per day. Design agencies providing higher value resources and carrying substantially higher business overheads are charging the same day rates as many independents," says Horn. Additionally, while freelancers charge by the hour, agencies often work overtime for free.

There is light on the horizon though. While concrete figures for 2004/05 are not yet out, the anecdotal evidence is that 2005 is going to be a good year. Budgets are back, but not to pre-dot-com levels, and the general mood in the industry is positive.

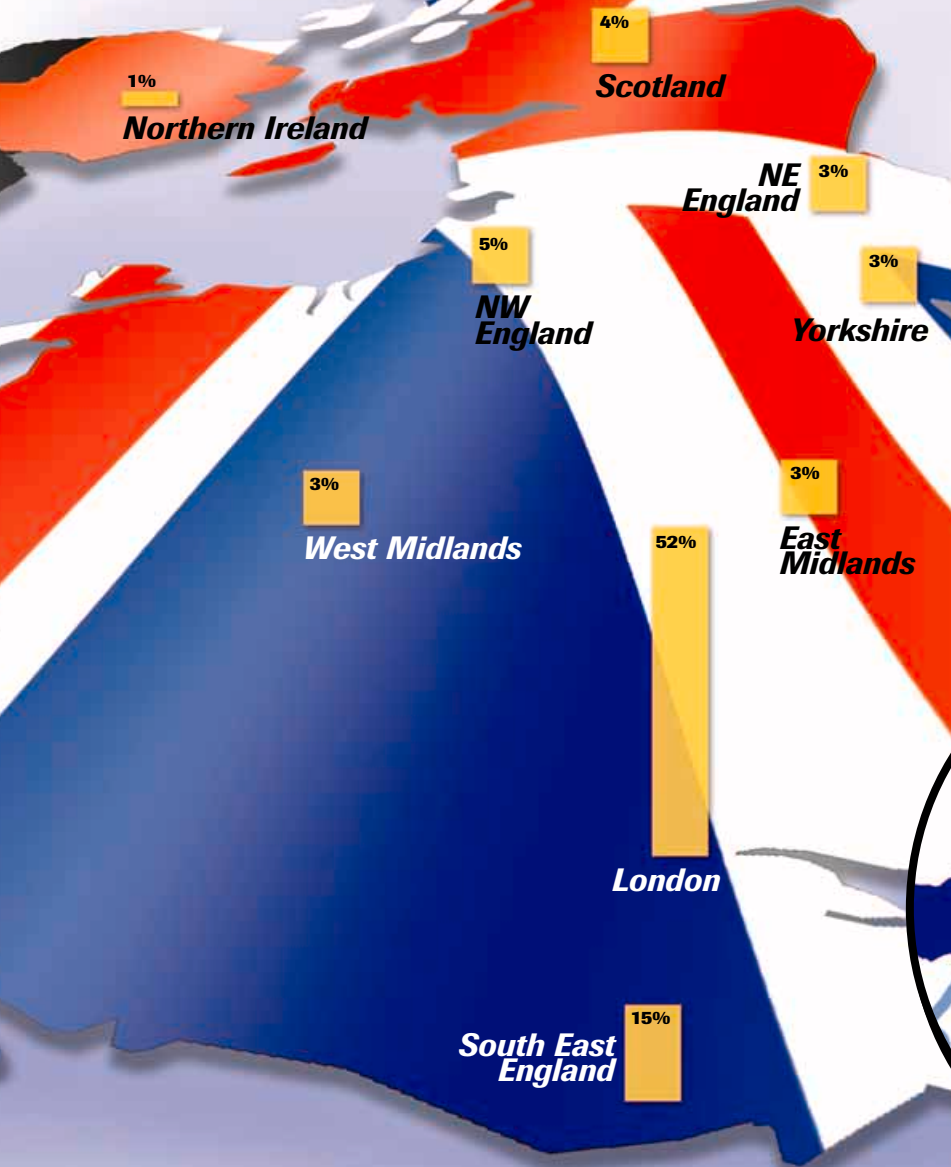
Scott Rodgers, creative director at Euro RSCG Interaction for example says, "We just had a new client with a £40 million ad spend tell us they wanted to start their marketing campaign with a viral campaign. The TV commercial, apparently, can wait."

Liz Citron, Chair of the British Interactive Media Association sums it up: "There's a lot of work around and commercially the future looks great."



## WHO DOES WHAT?

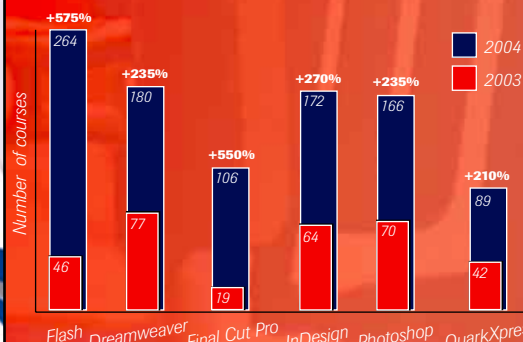
Agencies offering graphic design: 2,611  
Agencies offering multimedia/new media: 2,357  
Agencies working in TV, film & video: 774  
(British Design Industry valuation survey 2004)



## FLASH IN THE PAN

"Flash is booming," says Corps Business, who run training courses in digital design software applications. In 2003 they ran 46 training courses in Flash, in 2004 that shot up to 264 – an increase of 575 per cent. Dreamweaver courses also surged from 77 to 180 courses, and InDesign leapt from 64 to 172. In contrast poor old PageMaker sunk out from four courses to zero.

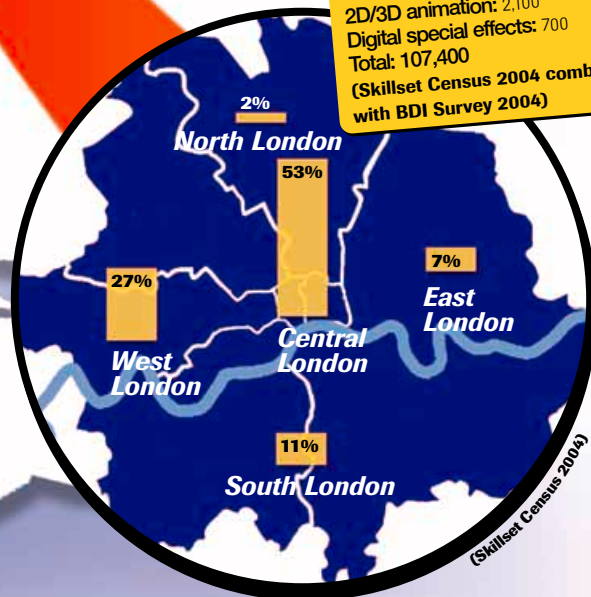
What's driving this thirst for training? Graphic designers training up in Web design skills, says Corps.



\*Source: Corps Business Salary Survey 2004

## EMPLOYMENT BY INDUSTRY

Graphics and branding: 45,500  
Web and Internet: 33,900  
Offline multimedia: 9,800  
Electronic games: 9,400  
Post production: 6,000  
2D/3D animation: 2,100  
Digital special effects: 700  
Total: 107,400  
(Skillset Census 2004 combined with BDI Survey 2004)



## YOU WANT MONEY

You want money, and you want more of it. Well you're in the wrong job. You'll get paid, but as D&AD's president elect, Dick Powell, says: "Not many people in this industry have a second home in Tuscany."

As the table on the right illustrates, junior graphic designers can expect to start on around £20,000; mid-weight designers score nearer £26,000. For specialisms – Flash is hot right now – you can expect to be earning more, say £30,000 if you have several years' experience.

In the animation and games world, a senior 3D animator who is expert in 3DS Max can expect to earn £30,000; mid-weight games artists between £25-27,000; while a junior Maya artist can be offered as little as £15,000 straight out of college.

Design-industry recruitment consultants Corps Business interviewed over 4,000 candidates to come up with the figures.

## DESIGNERS' SALARIES 2004

Job title	Junior (0-2 years' experience)	Middleweight (3-7 years' experience)	Senior (eight years plus)
Artworker	£18,400 (£19,500)	£23,200 (£23,900)	£28,500 (£27,500)
Graphic Designer	£21,000 (£20,300)	£25,900 (£25,200)	£32,500 (£30,100)
Web Designer	£20,100 (£23,700)	£24,400 (£25,900)	£32,900 (£30,800)
Flash designers:	£20,000	£30,000	£40,000

### By the hour please

Freelance designers charge £35-£50 per hour.

Agencies charge £65 to £120 for the principle according to the BDI.

\*Source: Corps Business Salary Survey 2004 (figure in brackets is candidate's expectation)

## WHICH MEANS...

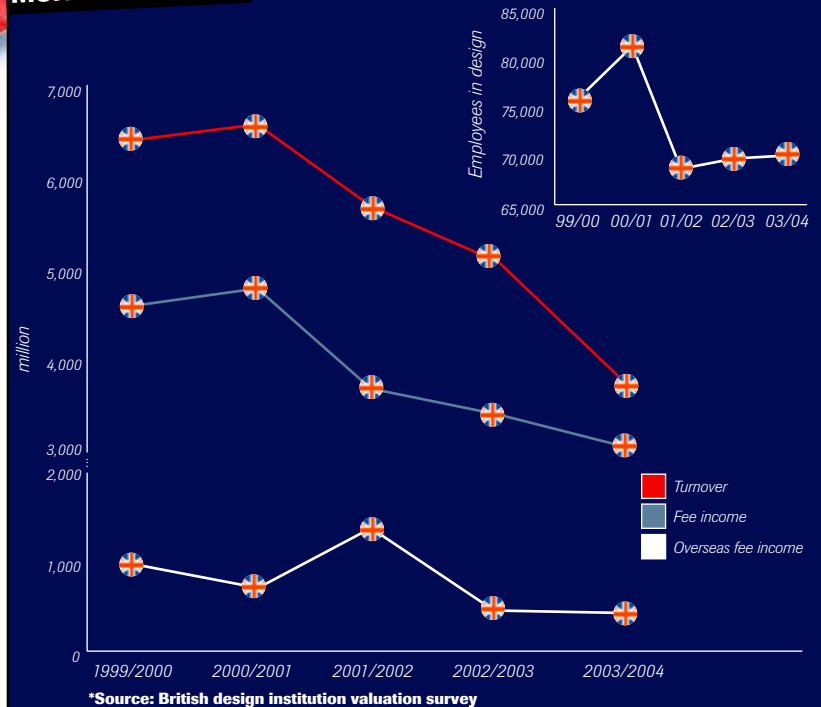
The state of the nation is a mixed one. On the one hand there are the agencies bubbling over with creativity – which is getting more expensive – and on the other there are the associations, cautiously optimistic but mildly despairing at the fundamental structure of the industry. Designers are being paid more than recent years, but less in real terms than a decade ago. Design agencies are getting smaller and more flexible, but are undercutting each other and themselves to get the work. The turnover of the industry has nearly halved in five years, but everyone is optimistic that it's turned a corner. More students are getting degrees and entering the industry than ever before (38,000 creative arts degrees in 2004 compared to 28,000 in 2000), but there's a crisis in experienced multi-skilled designers looming.

And underpinning that is the simmering issue of intellectual property rights (IPRs). When Digit spoke to the design bodies for this article, most of them mentioned IPRs – none of the agencies did. "We have to work together to achieve more appropriate payment, either for the release of IPRs or extended usage fees – or even a royalty share from the increased sales the client achieves by using our designs," says BDI's Maxine Horn. Photographers, illustrators and writers retain the copyright to what they create, why shouldn't designers, goes the argument. A seismic shift is needed argues Horn, but the industry is too fragmented, and (justly) preoccupied with pitching for the next job to effect that change.

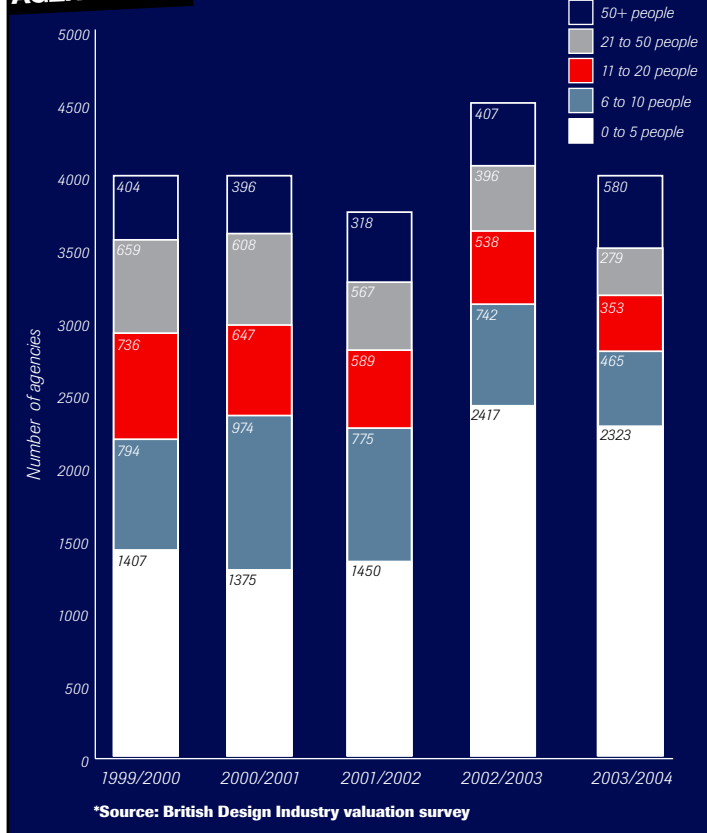
"The mood is more optimistic than in years past," says Design Council's Richard Eisermann, "but it's tinged with caution."



## MONEY IN DESIGN



## AGENCY SIZE



## AGENCIES WORKING IN EACH SECTOR

	00/01	01/02	02/03	03/04
Branding and Graphics	1,900	2,022	2,559	2,611
New Media	1,236	1,498	2,354	2,357
TV, film and video	228	491	750	774

## TEACHER, LEAVE THOSE KIDS ALONE

	2000	2001	2002	2003	2004
Female	16.5	17.7	18.8	21	22.9
Male	11.5	11.8	12.4	14.0	14.4
Total	28	29.5	31.2	35	37.7

\*Graduates of UK creative arts and design courses (thousands)  
(Higher Education Statistics Agency, Jan 2005)



**RESH SIDHU,**  
Art Director, Skive Creative  
[www.skivecreative.com](http://www.skivecreative.com)

"2005 will see the emergence of two types of design: sites that are visually impressive and incorporate video, music and 3D animation, and sites that adhere to industry standards of accessibility. Major companies will aim for the latter so their sites don't discriminate against any users.

Accessibility is the new watchword.

There's a silent fear in the industry – no one wants to be the brand that's made an example of. Hardcore designers though will break the mould to produce great designs with good functionality."





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# the joy of **INDESIGN**

InDesign may well be conquering the world of DTP, but can it cut it as graphic design tool par excellence in the world of branding and graphic design? Digit found out.

BY MATTHEW BATH

**A**dobe InDesign CS is a world-beating package. It has grabbed the high ground in the battle for the world of desktop publishing, and it is rampaging through the layout landscape like nothing before. For many users, the war between QuarkXPress and InDesign is over, with many layout artists making the switch and not looking back.

But is InDesign more than a powerful layout tool for newspapers and magazines? With its close ties to other creative tools such as Photoshop and Illustrator, can it be used at the coal-face of creativity, for designing branding and graphic art on a global scale?

The result surprised us. We asked some of the world's leading design and creative agencies – one's working for the likes of Apple, Disney, British Airways, Revlon, Mitsubishi, Volvo, and Hugo Boss – how they used InDesign in their creative work. We expected brochures. Instead, we discovered that many of them are using InDesign as their main creative package, designing award-winning poster campaigns, marketing material, and even exhibition stands, using InDesign.

So here, then, is an unabashed look at the joy of InDesign as a creative tool that seems to do everything. Award-winning designers and brand makers have put forward their take on why they work with InDesign, how it removes creative barriers to create truly memorable graphics, and why all designers should make use of its advanced tools to create graphics that previously simply weren't possible. InDesign is being used for more than page design – it's creating the branding and visual imagery that surrounds us. The results surprised us; they may well surprise you. And that really is the joy of InDesign. ▢

**Agency:** Deutsch, Inc

**Clients:** Revlon, Mitsubishi, Monster Worldwide, Expedia, Old Navy, Tommy Hilfiger, TGI Friday's, Coors

**Contact:** [www.deutschinc.com](http://www.deutschinc.com)

It takes a special type of person to work at Deutsch to contribute to our DNA," says Robb DeFilippis, senior vice president of print services, at Deutsch, Inc. "We love what we do. We have brainpower with a left-of-center twist. Drive. Guts. We're relentless. We are creative business people and business-minded creative people."

Strong words, but one that has lead to a phenomenal success for this global branding and creative agency, which has won *Adweek's* Agency Of The Year gong for five years running, and has over 150 designers and artists deploying InDesign on a range of commercial projects. Output includes everything from package design and full-blown collateral programs, to traditional brand advertising and everything in-between.

And DeFilippis knows his stuff. After starting his career as a photographer and developing a creative eye and "a certain quality aesthetic", he witnessed technology gain a tighter grip on his craft, and so leapt over to the production side and embraced what it offered as an artist. Now, as the director of a diverse group of artists, producers and technicians, he says he draws on his creative experience as well as recently acquired technical acuity on a daily basis. "This ensures that my staff offers our art directors and clients technically sound creative solutions to their visual challenges," he says.

"One of the most exciting things about our niche of the business is that technology is lifting barriers each and every day," DeFilippis says. "What used to take days to create now takes seconds. The tools and techniques that are regularly introduced by software developers and hardware engineers allow artists to take their vision to places they never would have dared attempt with older, more conventional methods.

DeFilippis confesses to a love of InDesign before it even launched, revealing that the idea of a layout application that integrated seamlessly with the other two-thirds of the desktop toolbox was attractive.

"One of the beautiful things about InDesign is the fact that you do not even have to leave the program to make adjustments or corrections to the elements on your page," he says. "Having some of the basic image-editing tools of Photoshop right within the program reduces the amount of time a designer spends flipping back and forth between

# Deutsch, Inc

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(left) **Robb DeFilippis** is senior vice president of print services at Deutsch, Inc. He started out in photography before moving into the production side of the creative process.

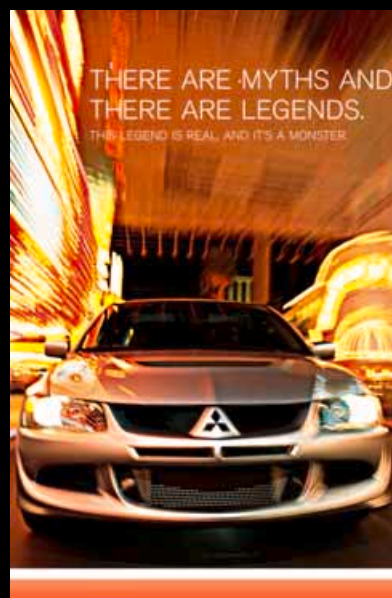
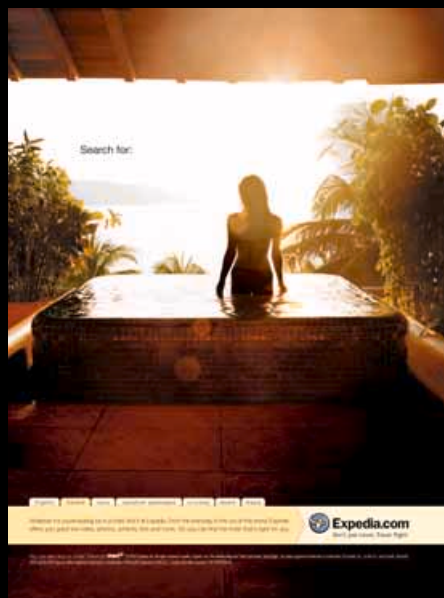
applications. This time is better spent conceiving or trying new techniques.

"Our designers, art directors, and production artists all use InDesign to varying degrees. They have come to depend on its flexibility and integration with Photoshop and Illustrator to contribute to their efficiency. This translates to more time spent creating and less time dealing with technical issues. Our clients benefit from the increased productivity and value that it creates," he adds.

One such example was recent work created in the agency's Los Angeles studio for a range of challenging assignments for Mitsubishi.

Studio director at Deutsch LA, Chris Roderick, says: "I would have to split this between the Mitsubishi car books and some of the direct mail pieces we've done for them. The car books were the most challenging over an extended period of time by far and the recent direct mail pieces made the most





(from left to right) **Branding and advertising work for travel shopping Web site Expedia.com, and car manufacturer Mitsubishi.** The people at Deutsch, Inc benefit from InDesign's integration with Photoshop and Illustrator, making switching between applications easier, and often unnecessary.

## INTEGRATION WITH PHOTOSHOP TRANSLATES TO MORE TIME CREATING AND LESS TIME DEALING WITH TECHNICAL ISSUES

ROBB DEFILIPPIS

use of InDesign's Creative Suite features. In both cases, the native ability to handle things like transparency, clipping paths, and layering saved us innumerable amounts of time over a Quark workflow.

The designers on both pieces worked up their initial concepts directly in InDesign without having to labour in Photoshop and move that into Quark. The use of InDesign's language dictionaries also made the process move faster for us. Nested styles, and character styles smoothed the type process into a flawless workflow. In addition, the ability for IDCS to export varied forms of PDF's tied us together with a quick turnaround on the clients end.

"In terms of challenges, I think the only real one was building the files correctly so that everything flattened out the way it was intended. Keeping vector objects vector, and not raster takes a proper build and correct transparency settings," he concludes.

DeFilippis is certainly caught up in the joy of InDesign. "From the onset of creative development, the ability for a designer to have a clear vision of what the end result will look like is a huge benefit. By utilizing InDesign from the beginning, the designer can achieve this.

"Development runs smoother when the designer can stay in one application, and when it's time for the comprehensive layout to be prepared as a mechanical for printing, we are much further along.

"It is a simple equation for us," says DiFilippis. "Quicker turnaround equals less manpower equals bigger margins."



**Agency:** Korero

**Clients:** Asda, British Airways, DHL, GE Capital, Lillywhites, Favre Sport, London Irish RFC, Heineken, Emirates Airlines, FedEx, Pepsi, The North Face

**Contact:** [www.korero.com](http://www.korero.com)

Founded four years ago by Garth Dawson and Dom Castley (an Aussie and a Kiwi), London-based Korero takes its name from the Maori word to talk, and to tell stories.

"That really describes what we're about," says Dawson. "Our philosophy is to create fresh, vibrant and adventurous communications that produce great results for our clients. Because Korero is home to a vibrant mix of Aussies, Kiwis, Brits, and others, we have a different attitude. Our culture and values cherish teamwork, innovation, honesty, creative exploration, and compelling communication."

Billing themselves as an integrated marketing communications agency, Dawson reckons its approach is one of freshness, passion, and creativity.

"While we don't have a studio style, I think that the culture here is reflected in the work we produce," he says. "We have a steady stream of graphics jobs, identities and branding systems – all of which InDesign is capable of dealing with."

InDesign was adopted by Korero in a bid to keep pace with the changing design landscape. "I like the Adobe feel and connection that InDesign has. It runs so smoothly with Photoshop and Illustrator, and that allows you to keep generating ideas on screen. It's a definite advantage to have Illustrator-like capabilities native to InDesign – being able to play with layers, transparency, and filters enables us to take page creativity further. We can have an idea, and make it happen with InDesign through the use of filters and layers," Dawson says.

Korero has produced work for the likes of Precision, part of the Favre chain of shops.

The team developed a new brand for the network – Snowtec – and then applied it to instore branding and POS, vehicle graphics, external signage, and retail merchandise. Sales were up 150 per cent last season, as a result, says Dawson.



# Korero





**Agency:** Sagmeister, Inc

**Clients:** Rolling Stones, Lou Reed, AIGA, Talking Heads, Anni Kuan, Hugo Boss

**Contact:** [www.sagmeister.com](http://www.sagmeister.com)



*Sagmeister is one of the most celebrated design houses in the world, and clients have included worldwide brands such as Hugo Boss, as well as huge names in rock – for example the Rolling Stones, Lou Reed, and Talking Heads.*

# Sagmeister

Austrian-born Stefan Sagmeister, and the team at Sagmeister, are known for the unconventional when it comes to design. Stefan once cut type into his own skin to create a poster for the American Institute of Graphic Arts, and the team is noted for deploying optical tricks in their design projects – which makes them worth a first, and second, look.

With credits for graphics design and packaging for the likes of The Rolling Stones, David Byrne, Lou Reed, and Aerosmith under its belt, Sagmeister is at the forefront of design, having received four nominations for Grammy Awards, and laying claim to having won the most international design awards of any studio in the world.

And, the worldwide acclaim continues to come thick and fast for the company, which preaches that design should be more humanistic and less shallow.

So it certainly comes as some surprise that InDesign forms the core of their creative output, with more recent work including a 200-page book for the Kunststhaus Bregenz museum in Austria about Mariko Mori's Wave

UFO. The entire book talks about one single piece of art, but a rather complex one at that. Three people can enter the Wave UFO, have electrode headsets attached to their forehead and experience a 3D animation changing in sync to their individual brain waves. The book, created by Stefan and Sagmeister designer Matthias Ernstberger, hovers within an injection-molded slipcase, received adoration by Mori and, while the layout is clean, the project demanded some extraordinary effects.

Type within the project is set on a wave, which was created using the text-on-a-path tool in InDesign. Transparency and blending modes were used to lend effects to pieces of text and images, with one example using InDesign to draw attention to a single segment of a pie chart showing the brain waves of one participant by overlaying transparent white onto the remaining segments. Photos were treated in InDesign to give a varnished, shimmering appearance. "We couldn't have even attempted this without InDesign," says Ernstberger.

"The need to lay out imagery, illustration, graphics, and large amounts of copy [makes InDesign vital]," says Ernstberger. "I think the greatest advantage of InDesign is the compatibility with other Adobe programs like Photoshop and Illustrator.

"The easy exchange of data within the applications of the Adobe family makes the process of work so much faster and life so much easier. We use InDesign for basically every job which goes to press. Posters, books, and stationary systems."



**Agency:** Flat

**Clients:** Reuters, Amnesty International, Microsoft, Cartoon Network, Sesame Street, The Learning Channel, Pfizer, Oxygen, Knoll

**Contact:** [www.flat.com](http://www.flat.com)

**Q** We have a strong belief in structure and visual hierarchy, but those are just tools to build on – they should not control the end result,” says Petter Ringbom, a partner at Flat. “Not everything should look like an airport. That’s just mean.”

Yet even with its structured approach to design, which has seen it scoop awards such as the American Design Award and a gong at the Society of Publication Designers, Flat is most definitely fluid when it comes to design. It has recently completed work for the 2004 NYC marathon – “before we worked with them, their stuff was invisible” says Ringbom – as well as projects for Knoll and Reuters.

“Our practice is predicated on the belief that good design facilitates the smooth flow of information, and enlivens all forms of social discourse,” he says. “In less formal language, I like to say we make surprising things for happy clients.”

“I’ve always been interested in making work with a fluid interaction between type, illustration, and photography,” says Ringbom. “The NYC marathon is one of those projects where it felt natural to go beyond the typical advertisement methodology of big type and big image. We wanted the project to fall between an ad and a poster; it had to grab your attention on the street and look good on your wall at the same time. The solution that has really carried through all three campaigns we’ve done for the marathon was to show the huge mass of the race while highlighting individual achievement.”

A key element to the campaign’s success was Flat’s use of InDesign – a tool Ringbom started using in 1999 from version 1.0. “I never liked Quark, and figured that InDesign had to coexist better with Illustrator and Photoshop,” he says.

InDesign was used in the NYC marathon campaign to overlay photographs with illustrated details, says Ringbom – with InDesign making it simple to scale and resize the composite for the numerous formats the campaign was destined for. “We took great advantage of the six colour process available to us by printing the illustrated elements in solid PMS ink,” he says. “It looked really sharp and the ads got a lot of attention – they basically take over the town for the month of October; they’re on buses, in the subway, on phone kiosks, everywhere.”

So why is design with InDesign a joy? The secret, says Ringbom, is the fluid interaction between text, shapes, and illustrations as



# Flat



**ING New York City Marathon Nov. 7, 2004**



you compose a page.

“The fluid interchange between Photoshop, Illustrator, and Acrobat is really the biggest benefit. When you work on many different projects at the same time, anything that makes your life easier is a good thing

“The Story function is certainly a treat,” says Ringbom, warming to the subject, “hanging punctuation at the click of a button. Of course, turning type into a vector path and working with that way is cool. I haven’t gotten into OpenType yet, but that’s next on my list.”

As to 2005, things look good for Flat, says Ringbom. “In terms of the economy, I’m more optimistic – we see more work than we did two years ago. In a broader sense, it seems to me this industry is dividing into two categories – the huge branding machines, and the smaller, mostly entertainment-oriented image-making shops. Staying both frugal and interesting, without getting pigeonholed, is really Flat’s biggest challenge.”





**Agency:** Warren Group/

**Studio Deluxe**

**Clients:** ABC, Disney, Mattel,

**Capital Group, Balance**

**Pharmaceuticals, Heritage Sports,**

**Nouvelles Frontieres, Magic Hour**

**Contact:** [www.studiodeluxe.com](http://www.studiodeluxe.com)

**W**arren Group/Studio Deluxe is one of the world's leading design agencies, and has scooped numerous awards for its work with the likes of Disney, ABC, and blue chip clients, including awards from the Art Directors Club New York and the International Association of Business Communicators. The firm's work is showcased in the US Library of Congress, where it is part of the Permanent Design Collection. Recognized for its print design, the group – led by Linda Warren – is a keen advocate of Adobe InDesign.

"The bulk of our work is editorial design," says Warren, "and we can be working on multiple projects at once, so it is important the software we use can handle complex documents and images, and it's critical that it happens easily. One of the things about InDesign is I don't have to think about it in terms of software – I just know that it works for me, and there are many things that make my day easier. We're not spending time solving problems or it crashing."

It's the small things that helped Warren come to understand the joy of InDesign: "The first time I use InDesign, I simply could not get over contextual menus," she says. "Adobe seems to have thought through all the things I might want to think about at that moment – such as add a soft space or hyphen, add a registration mark, change the case of the text, and so on. It's initiative and thoughtful."

Another favourite is the glyph menu – Warren marvels at being able to pull up the entire character map of a font, rather than jumping to a separate font program. "That is a marvellous feature," she says. "I also enjoy the fact the print and export dialogs are separate," meaning she doesn't have to alter the settings when printing or exporting to PDF.

Other key features that help the studio's work include the ability to bring in EPS images at full resolution, and zoom in to 1,600 per cent and line it up perfectly.

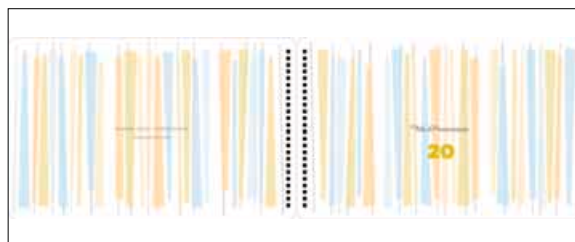
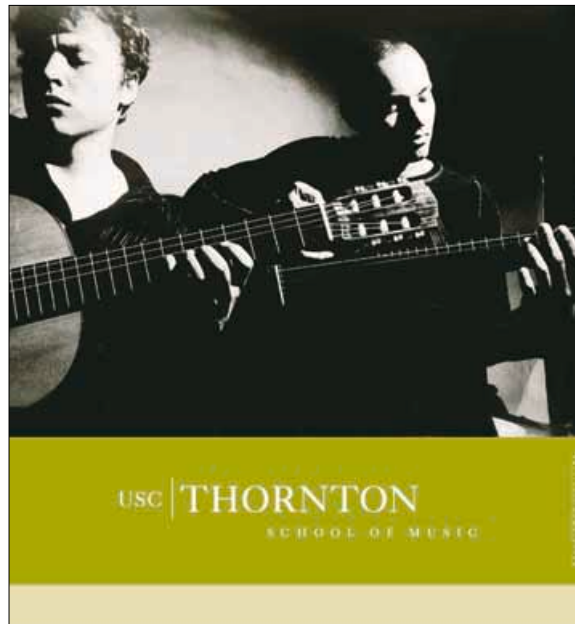
"A couple of tricks include being able to do drop shadows on the fly – and we all love the transparency palette, although designers may burn out on that, but it does bring a new dimension to work," she says. "I don't want to

# Warren Group/Studio Deluxe

see this as a gimmick – it kind of reminds me of the old days of graphic design, in that it's kind of retro in the way work was output on a letterpress and the inks interacted, which was disappearing in graphic work.

Perhaps best of all, Warren Group designers reckon InDesign has increased their creative outlook.

"I'm naturally resistant to change," says Warren. "But, converting to InDesign was like putting my desk in front of a different window and getting an entirely different view. My work feels exciting again. I've already redone a large project in InDesign with exceptional results. It's like having a whole new window on the world of design."



Linda Warren's agency Warren Group/Studio Deluxe relies on InDesign for much of its creative work. Clients include ABC, Disney, Mattel, Balance Pharmaceuticals, and Heritage Sports.



**Agency:** Gee + Chung

**Clients:** Apple, IBM, Lucasfilm, The Walt Disney Company, Sony, Autodesk, Smithsonian Institute, Edelman Worldwide.

**Contact:** [www.geechungdesign.com](http://www.geechungdesign.com)



Graphic design is not only about communications, but about creating value for our clients," says Earl Gee, co-founder of Gee + Chung. "We approach our work with the mindset of an architect, creating solutions that withstand and transcend time."

It's a message that has been drummed into Gee, and his design partner Fani Chung, since their graduation days, when both started out working at Landor Associates – then the world's largest design firm. The two decided to go-it-alone in 1990, founding Gee + Chung "with absolutely no clients" says Gee. But, with school friends working as creative directors at the likes of Apple, IBM, Oracle, and Sun, the duo soon discovered a design market in the high-technology arena.

The multidisciplinary studio runs the gamut of creative output, ranging from identity and branding, to packaging and tradeshow environments – and InDesign has proved its worth in all of them, says Gee.

"Using InDesign simply allows us to create work faster and more efficiently, providing greater value to our clients," explains Gee. "InDesign has some extremely useful features that are ideal for corporate identity applications and design templates. When we provide clients with design templates, InDesign's printable guides, margins, and titling areas allow our client's in-house design teams to understand our templates and use them more effectively. In addition, InDesign can embed and unembed linked graphics directly into the InDesign document without the need for a separate graphics file, which is especially useful with any design with graphics.

"In addition to InDesign's overall intuitiveness and efficiency, OpenType support makes it easy to use Old Style figures in our work, which we enjoy using in annual reports and financial materials such as the DCM IV Offering Memorandum.

InDesign's Photoshop-like blending modes and opacity support make transparency simple – you don't have to and switch to Photoshop to make changes, says Gee.

"The ease in which transparency is accomplished allows us to consider using these features to create a more effective

# Gee + Chung



*When Gee + Chung started out in 1990, the company found a lucrative and creative market in the technology sector.*



design without first thinking of how much time and effort it would take to even try it. We greatly appreciate that InDesign can simulate printing techniques that were until now virtually unprovable, with overprint previewing on-screen as well as when you print out," says Gee.

One such project that benefited from using InDesign was the creation of a 50-page book for DCM-Doll Capital Management, an investment company, to promote a new fund.

"We created an oversize format to reflect the firm's confidence in the fund and to contrast with standard 8.5-x-11-inch memorandums. The key to the book was the translucent cover to reveal the 'clear difference' of the fund. InDesign's overprint simulation and transparency capabilities allowed us to present a comp that effectively simulated the interaction of colours on the translucent plastic cover and paper underneath," reveals Gee.

For Gee and the team, InDesign is all about removing limits. "The ability to use a single program throughout the entire creative process helps to make designing with the computer more seamless and intuitive," says Gee. "InDesign's continuously rasterized PostScript objects let you see what you are doing on screen much more accurately, allowing for a much more natural and unrestrained way of designing. As effective design is about scale and contrast, the ability to change the size of objects is critical to the design process. InDesign can scale groups of objects without a separate plug-in; an essential feature lacking in Quark for over ten years."



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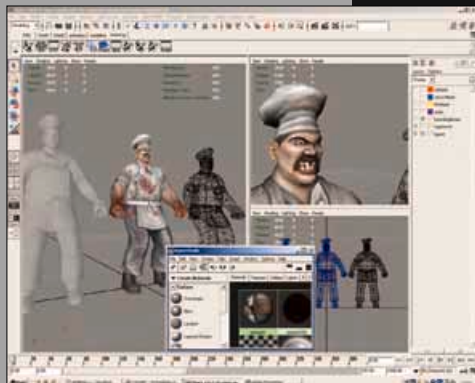
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# WE WANTED TO GIVE THE STORY A B-MOVIE FEEL

ANDREW LAWSON





# TIMESPLITTERS: FUTURE PERFECT

UK-based company Free Radical is the brain behind the *TimeSplitters* video game series. Digit got the inside story on the latest instalment.

**T**he human race is embroiled in a devastating war. The *TimeSplitters* and the extraterrestrials are kicking humankind's collective ass. In the middle of an apocalyptic battle, the humans learn that sometime in the past, a being named Crow created the *TimeSplitters*. The military powers-that-be send a badass bald marine called Cortez back in time to the point of the *TimeSplitters*' creation. You are that badass bald marine, and it's your job to stop Crow creating the *TimeSplitters* and thus save the human race in the future.

Welcome to *TimeSplitters: Future Perfect*, The third in a series of games created by UK company Free Radical. The trilogy is known in the games world for its quirky, offbeat characters and storylines. As a first person shooter (FPS), the *TimeSplitters* series is something of a rarity because it maintains a sense of humour.

"We wanted to give the story a sort of B-movie feel," says Free Radical's lead animator Andrew Lawson. "Something that didn't take itself too seriously – as so many FPS's around these days do – but still had a plot that kept the player interested in what was happening next."

Creating a game is lengthy process, akin to making a movie. "When writing the story for the game, James Cunliffe and I simply closed ourselves in the meeting room for a few weeks and bounced ideas off each other until we had a solid framework for the game – our character, his journey, and a purpose to go on that journey."

After the storyline had been settled, characters were developed. Lead character artist Ben Newman explains where they come from and how they're made: "I wanted to keep the characters very stylized and caricatured, while at the same time making them more realistically proportioned than the previous two *TimeSplitters* games. I was trying to keep the overblown personalities of the characters while toning down the cartoony-ness.

"The ideas for characters come from a lot of different sources. Due to the B-movie nature of the *TimeSplitters* series, we like to play with the stereotypes you would see in a particular setting, while at the same time chucking in something that people wouldn't expect.

"The level with the most variety has got to be the mansion. You have all the things you would expect to see – zombies, demons – but there are also characters that are a bit more quirky; the cow carcass zombies that drop off their butcher's hooks and come after you, for example. The bonus characters are approached slightly differently. Because they aren't level specific, we can just come up with anything we think would make a fun character."

## Model behaviour

All the characters are based on the same basic model.

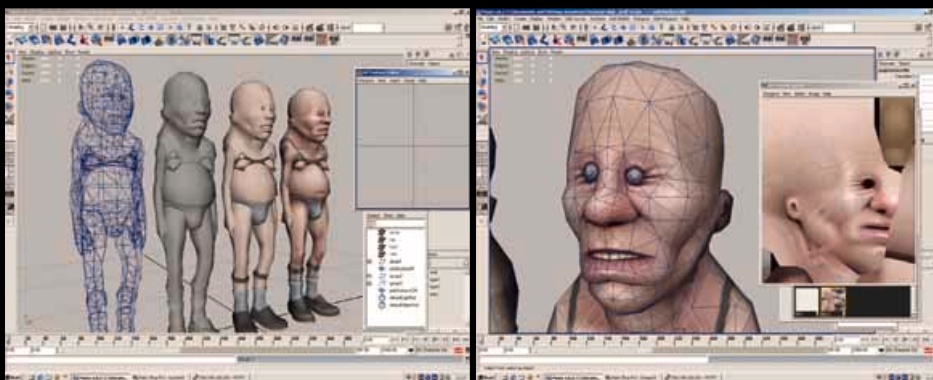
"We use a single bipedal rig for virtually all the characters," says character artist Jake Gumbleton. "So the largest robot in the game has to work on the same skeleton as the most svelte female."

He adds, "The other constraint is our binding method. We use rigid bind in Maya that means the way the geometry is laid out is heavily prescribed." Modelling a character begins on pencil and paper, he says. "We run through a series of design sketches until we have a concept that feels right. Once we have an agreed design we do front and side views. These drawings are used in a similar way to the way that animators use rotoscopes.

"We use a print-out of the skeleton as the beginning for these drawings. This lets us see if the character will work on the skeleton before we spend any time modelling.

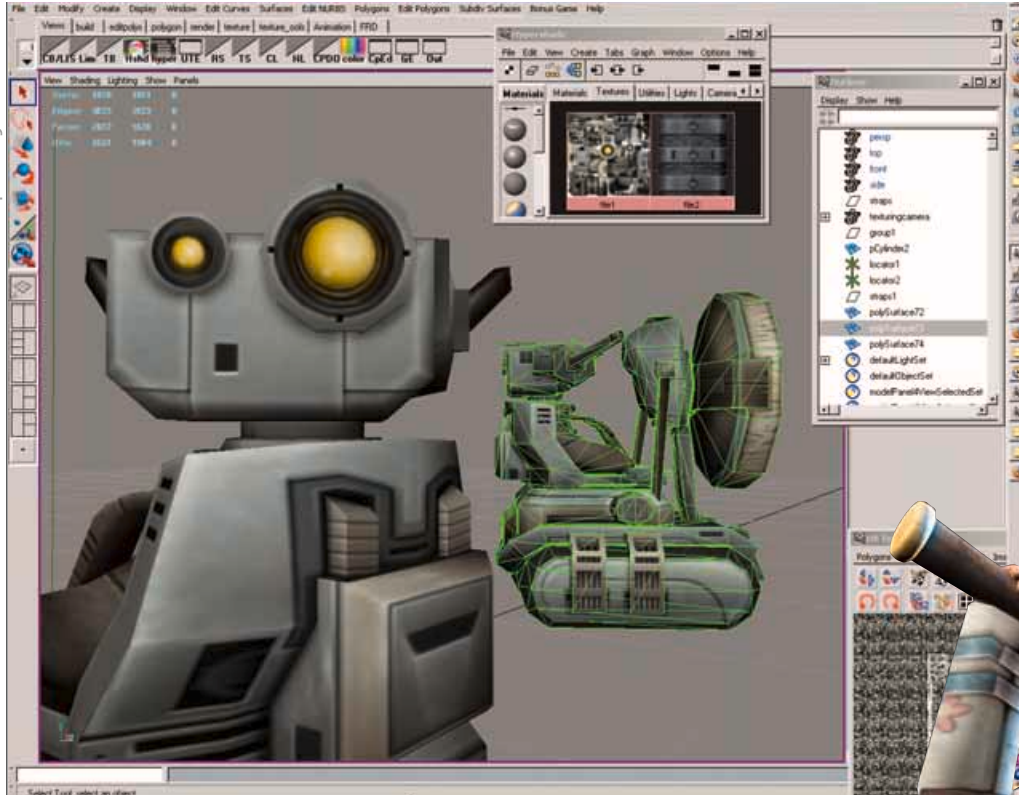
"We also do a second pair of drawings – again one front and one side – of the character's head. This is because the head is the focus and requires more detail."

Gumbleton begins the actual building of the mesh via polygon primitives. "For the torso, I typically start with an eight-sided



Free Radical's character artist Jake Gumbleton says all characters are modelled from the same bipedal rig. The team uses rigid bind in Maya, which means that the

geometry of each character is heavily prescribed. The heads are modelled by modelling half the model, and the duplicating it to create a symmetrical shape.



cylinder and position it so that it sits in the middle of the character's body," he says. "I then scale it in the x-, y- and z-axis so it fits closely to the character's body shape – using the scanned-in drawings as reference. I then use Maya's knife tool to add horizontal subdivisions along the y-axis of the model.

"On a symmetrical character we will often delete half the model and flip it over the character's y-axis. That way we can work on one half of the body and see the results on both sides at the same time. We use this same principal for anything that is symmetrical – typically faces. Even on asymmetrical faces we would still begin like this and then add a little asymmetry by hand if it is necessary.

"I continue to add cuts to the mesh to get the resolution and I keep moving the verts to shape the mesh, adding detail where it's necessary.



Gumbleton loves the variation that the *TimeSplitters* series offers – characters from zombies to soldiers need to be created.

All the while we pay careful attention to the scans as well as to the original concept sketch – it's important to be organic."

Gumbleton says the model has to deform well once it is animated, as well as looking right from the start. "That means that, when modelling any part of the body, I'm always considering the fillets and deformation areas," he says. "Fillets are islands of verts that are weighted to allow things like elbows and shoulders to work. Deformation areas are those sections of the character that will deform to let other pieces move. For example, we leave a wedge-shape area between the chest and the shoulders free of verts so that the shoulders can rotate."

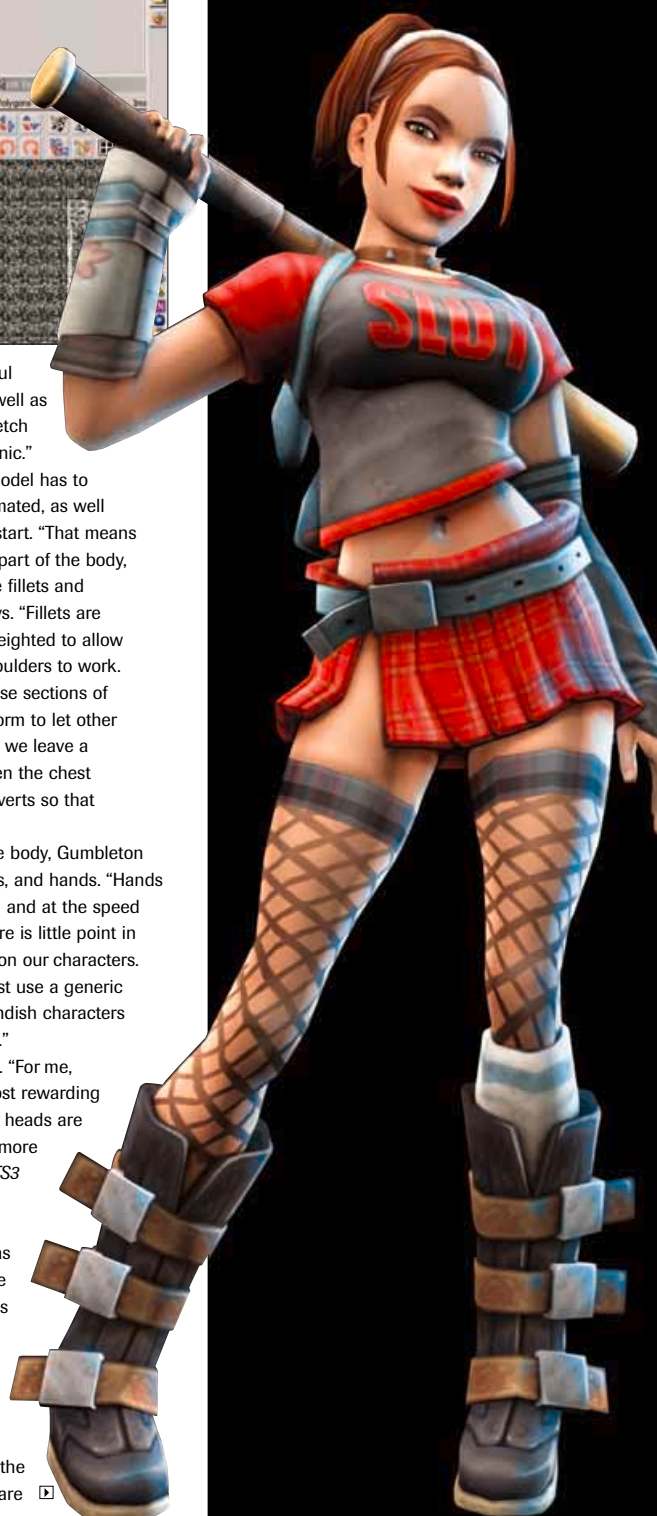
Once satisfied with the body, Gumbleton will work on the arms, legs, and hands. "Hands are complicated and small and at the speed that *TimeSplitters* runs there is little point in making individual fingers on our characters. For most characters we just use a generic hand – for the more outlandish characters we make individual hands."

After that it's the head. "For me, modelling heads is the most rewarding bit," says Gumbleton. "The heads are still low poly but carry far more detail than the bodies in *TS3* characters.

"We use the same approach to model them as we do the torso: set up the model sheets as flat planes in a separate layer, create a primitive with a centre line on the y-axis and then delete half of the mesh and duplicate it. When modelling the face, the contours of the geometry are

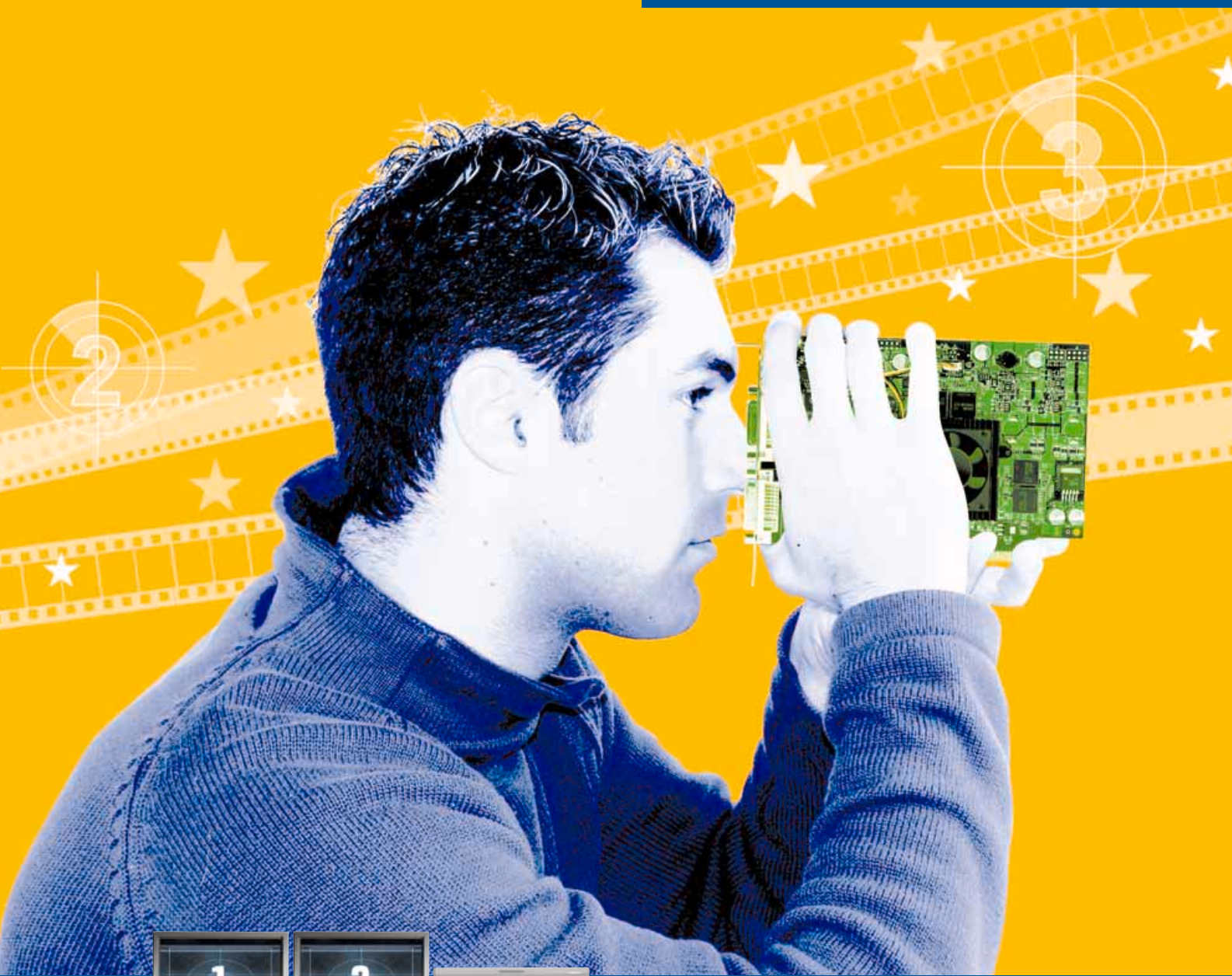
**I FEEL VERY  
LUCKY INDEED  
TO BE WORKING  
ON SUCH COOL  
AND EXCITING  
CHARACTERS**

JAKE GUMBLETON





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very important to keep in mind. This is particularly true for characters that will have facial animation. The topology of the face will define how well the character will deform in animation.

"I typically begin with a cube. I then put in cuts to get the basic features in – a cut around the head at mouth level and another at brow level. I then bring in the corners of the original cube to create a more rounded shape for the head. It's important not to add lots of lines at this stage. You want to get everything working on a basic proportional level before swamping your mesh with detail. The more lines you add to the face the more verts you have to shuffle around if you need to change something.

"Once I have the basic head shape I then go in and add edge loops for the eyes and mouth – an edge loop is a set of edges placed in a ring – using the Knife tool. I then move these verts around so that the start shape for the mouth and eyes looks correct in 3D space. The next contours I add are another set of edge loops around the eyes and mouth. This pattern of concentric circles is what is important for animation: if you approach these high deformation areas in this way then you tend to get less tearing when the face animates."

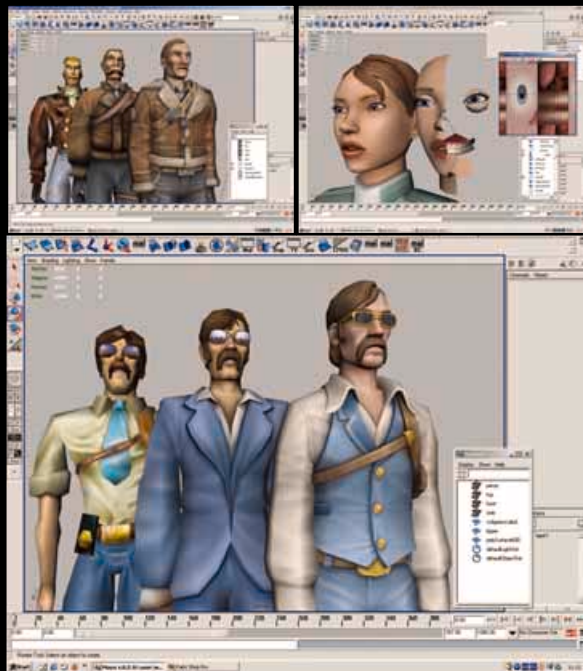
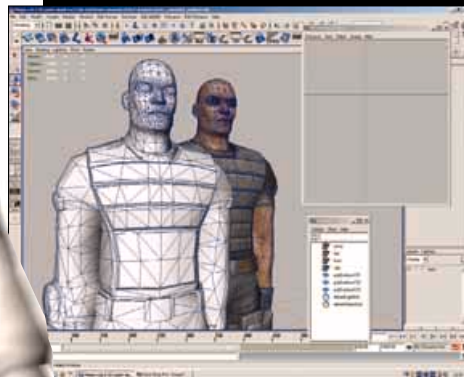
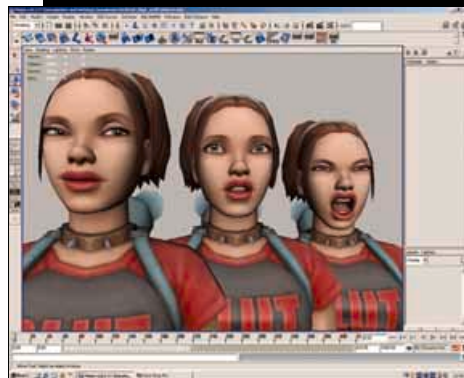
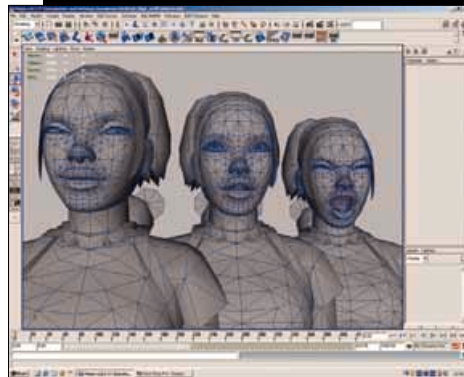
Once the central features are fleshed out, Gumbleton can add subtler lines to define the general forms of the head. These lines are cut so they follow the natural flow of the face's features as well as complementing the edge loops around the eyes and mouth. "Once these details are in, I flesh out the cranium so that its shape is correct or has the polygons for hair or hats."

After that, Gumbleton and the rest of the team tweak the model until it all looks just right. "Then we skin it and check that it deforms correctly on the skeleton. If it does then we pop it into the game."

Like all the character artists at Free Radical, Gumbleton loves his work. "TimeSplitters provides us with a fantastic opportunity to do almost anything. I think that this is probably the unique selling point of being a

character artist at FRD. I certainly can't think of many other games where I could be making a giant robot one week, a zombie the next, and a pirate the next. A man in a lab coat might be dull at the outset but once you get making you find he's a crazy professor or an ultra nerdy caricature of a scientist. In the current climate of realism, I feel very lucky indeed to be working on such cool looking and exciting characters."

By Ed Ewing



Even with asymmetrical heads, the shape is modelled using just half the mesh, and then duplicated to give the complete face. Asymmetrical aspects, such as hairstyles, are added later.



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COMMENT  
WAS THAT THE  
CG TORTOISE  
LOOKED  
BETTER THAN  
THE REAL ONE.  
WHICH IS KIND  
OF ODD

STEPHEN VENNING



# Diet Coke shell out

**Meet Diet Coke's new secret weapon. Follow Tort's adventures as he skateboards, dances along a keyboard and whooshes down the Diet Coke ribbon. The Mill's Stephen Venning explains.**

What's great about a concept like this is it's very engaging and personal. You can't help but put the tortoise into everyday situations and find it amusing. And like most mere mortals, Tort's heading for an embarrassing crash on his skateboard."

The head of 3D at The Mill, Stephen Venning, enjoyed working on Diet Coke *Tortoise*, not least because of the character's quirkiness. "The intention was to create a character that wasn't too cartoony, almost slightly awkward; behaving like a real tortoise would on a skateboard ... if only he had half a brain."

Fortunately, although the skating tortoise might not have a brain, the creative lot at The Mill do.

"Initially we were approached by the agency VCCP and the production company to discuss what the best way of creating the TV commercials was," explains Venning. "One element of this solution was to create a fully photoreal tortoise in CG. So it was only natural, I suppose, that when the agency was looking for ways of producing other elements of the campaign – the billboard and the online animations – we felt that if we could increase the size of our animation team we'd be able to create all the animation required."

## Whippin' Piccadilly

As well as the TV commercials, Diet Coke took over the biggest billboard in Piccadilly for their skateboarding, piano-playing tortoise. The TV and online animations had to transfer to this unusual, curved display.

"In terms of the billboard, the main challenge was working with the very wide aspect ratio, and the fact that the screen isn't flat, it actually bends around the front of the building. That means that from many parts of Piccadilly you can only see 70 per cent of the screen. The challenge is to keep the whole screen alive, and try and use these challenges to your advantage," explains Venning.

"One beneficial thing we did was to video a clip of the Piccadilly site so we could composite our test animation into the space. When you're working on a billboard that is 40-foot up and 60-feet across and based in the heart of busy London, any way of trying to previsualize what it will look like needs to be explored."

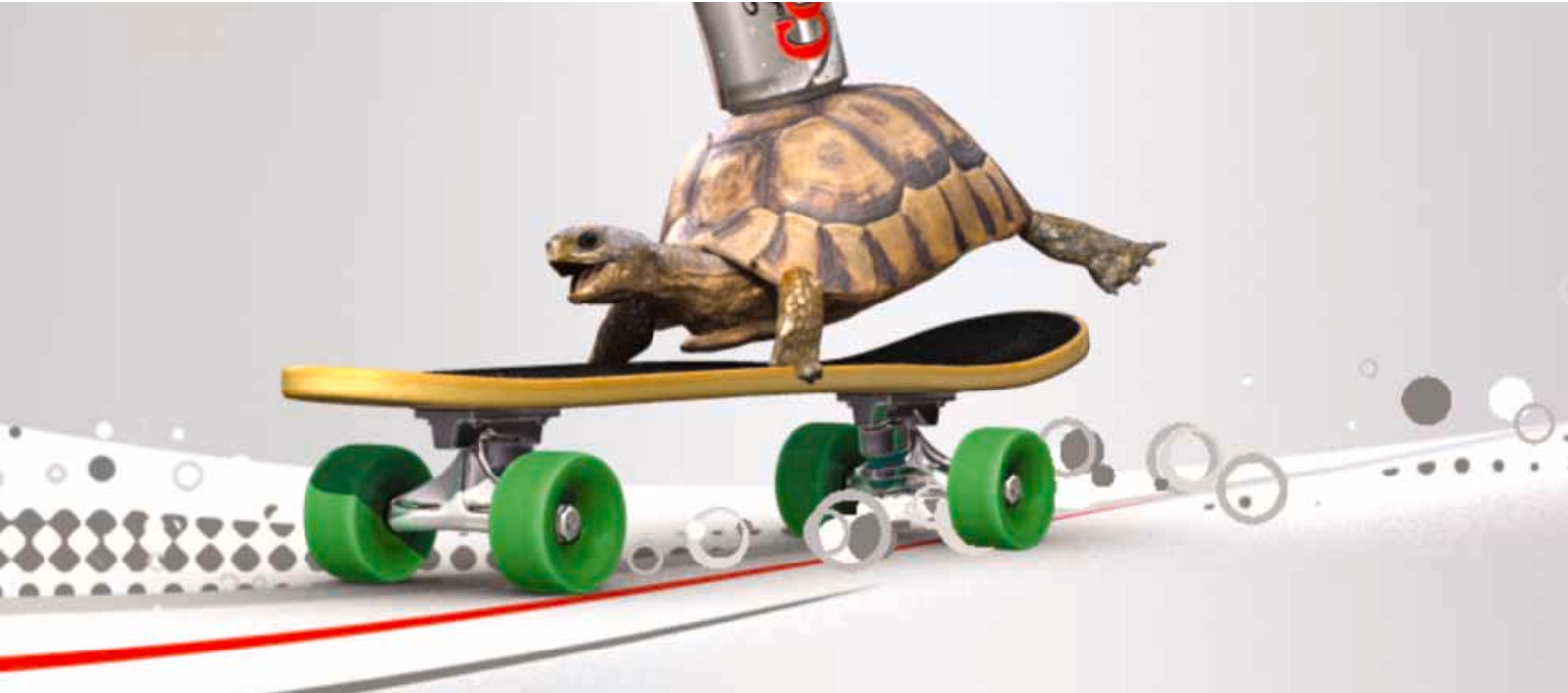
It seems to have worked. Squadrons of tourists have been spotted craning their necks as Tort skates across Piccadilly Circus.

"The response has been fantastic. On the big screen in Piccadilly everyone thinks Tort looks great," says Venning.

## Credits

<b>Project</b>	<i>Diet Coke Tortoise</i>
<b>Client</b>	VCCP <a href="http://www.vccp.com">www.vccp.com</a>
<b>Post-Production</b>	<i>The Mill</i> <a href="http://www.mill.com">www.mill.com</a>
<b>Producer</b>	Helen Weil
<b>3D Producer</b>	Stephen Venning, Satoko Iinuma
<b>Tools</b>	Adobe Photoshop Alias Maya Apple Shake Discreet Flame Mental Ray





The other main challenge was creating a good-looking tortoise. For that, the team turned to real-life and animatronics.

#### Real-life inspiration

"The main challenge was the very realistic nature of the tortoise that was demanded. Knowing that on the shoot real tortoises would be used for reference, we knew we'd need to get the CG one looking as believable as possible as we were to be measured against the real thing.

"The CG tortoise was actually modelled on the animatronic live action tortoise, as a bit of license had been used to scale up the size of the head and the eyes.

"Textures were created by photo-mapping and projecting photographs of the real tortoise's texture. For the rendering, photos were taken on the day of the live action environment. These were then used for lighting the cg tortoise in the commercial, and as a guide for the fully virtual billboard sequences.

## FOR THE SKATEBOARD STUFF WE BOUGHT SOME SKATE DVDS TO CHECK OUT SOME OF THE MOVES. WE DIDN'T WANT TORT PULLING TRICKS THAT WEREN'T LEGIT

STEPHEN VENNING

"Once the initial model was built one of the team took responsibility for building the animation rig. As the majority of a tortoise is hidden by a hard shell this was a little simpler than usual. Effectively we rigged the head and then two legs, which were duplicated.

#### See shell

"After studying the reference material and the live action the team set about blocking out the animations for the billboard sequences based on the storyboards the creative team had provided. Once the blockings were signed off the animation was finessed.

"Because of the humanization of the tortoise, the animators had to find the line between realistic tortoise movement and human expressions and actions which give Tort his almost goofy persona."

As well as compositing the CG tortoise, The Mill's 2D team had to subtly finesse the in-camera animatronic tortoise. "They helped add to its animation and humanization – creating eye blinks and a smilier face was part of this task in Flame," says Venning.

#### Shell shock

As well as shooting a "live action tortoise" and using the animatronic for lighting reference, the team plundered their creature library.

"The good thing is there is lots of documentary footage of tortoises available," says Venning.

"Then for the performance stuff, most notably the skateboard stuff, we bought some skateboard DVDs to check out some of the moves. We didn't want Tort pulling tricks that weren't legit! Other than that there was a good deal of animator acting going on in Mill 3D."

Making the shorts was fast. "All told I think the first two billboard spots, about 60 seconds

of photoreal animation, were achieved in the space of six weeks," says Venning.

"We didn't use anything too clever on this one, it was really doing everything with attention to detail. The modelling and texturing were done in Maya, with a good deal of Photoshop along the way, and the rendering in Mental Ray. While compositing of the billboard was done in Shake, the commercial used Flame.

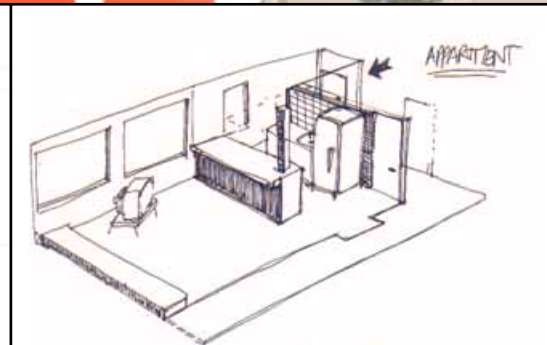
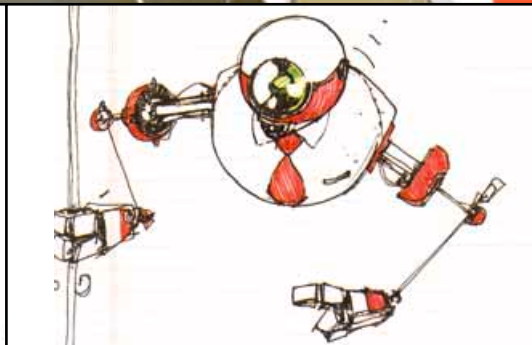
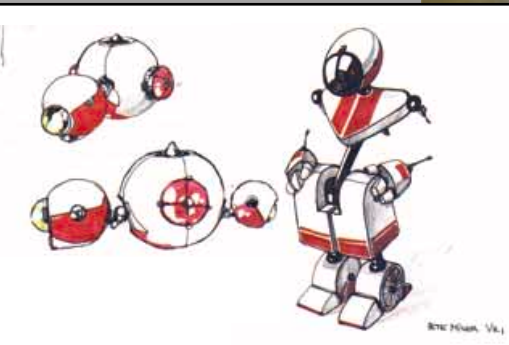
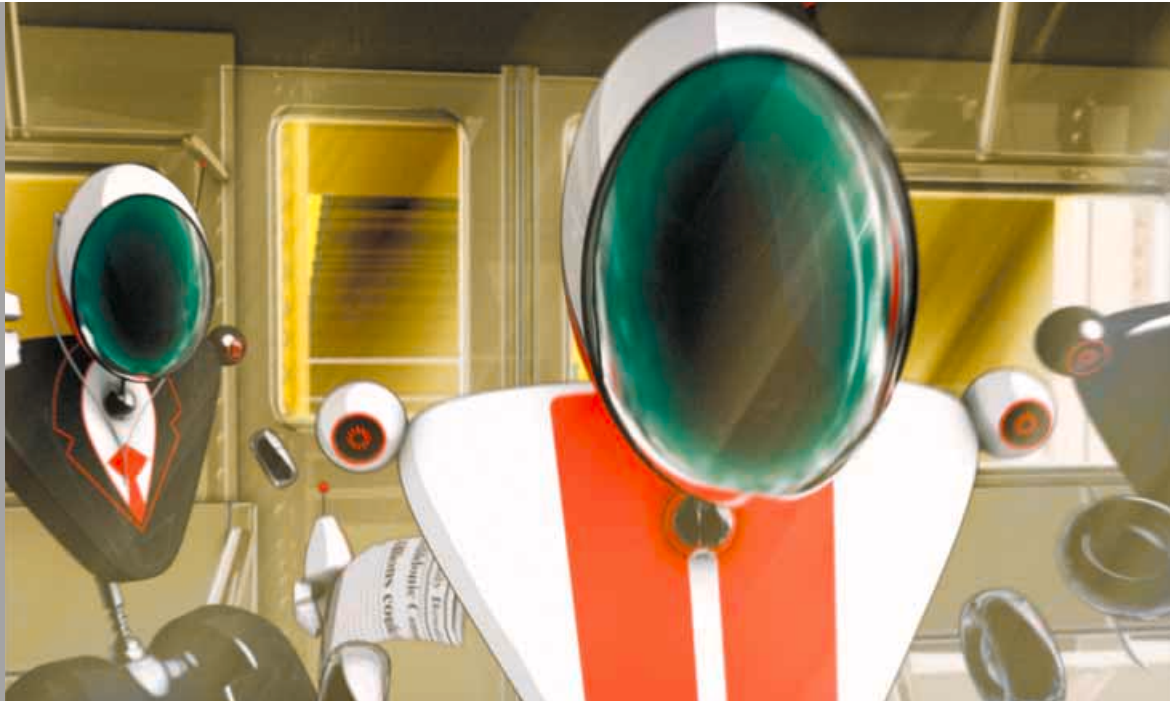
"Fortunately the concept was well thought through in the fact that things like the ribbon lent themselves well to being used as a skating park half pipe, or a keyboard. One trick to overcome on the billboard sequence was the fact that the aspect ratio had a habit of cropping off Tort's Diet Coke can, but with a bit of camera finessing we were able to brand the sequence cleverly enough."

Venning and his team were very happy with the outcome, as were the client, Diet Coke. "I think the team was especially pleased with the billboard stuff because they were able to work so collaboratively and creatively with VCCP's creative team to get such great results. With the client so happy as well this makes it doubly better."

However true satisfaction came from elsewhere: "From the 3D team's point of view possibly the best verbal comment was that the CG tortoise looked better than the real one. Which is kind of odd when you think about it"

By Matthew Bath and Ed Ewing

IT'S ABOUT A  
CUBICLE  
DWELLING  
ROBOT, WHO  
THINKS HE'S  
HUMAN BUT  
DISCOVERS  
HE'S A ROBOT



# Scent of a Robot

It's robot-boy with attitude, baggies, and an iPod. New York-based UVPhactory created the new video for hip-hop artist Peter Miser and yes, these cool hip-hop robots can dance.

**E**ver feel like a robot at work? Slouching around between the water-cooler and your keyboard, surfing between email and record stores, watched over by a single-track boss with no sense of humour and too much steel up their spine? Then you'll empathize with the robot in hip-hop artist Pete Miser's new video.

New York's UVPhactory created the concept, designed and executed the 3D animation, lensed the live-action footage and completed the offline and online editorial for the three-and-a-half minute video for Miser's new single, *Scent of a Robot*.

The single tells the story of a cubicle-dwelling everyman who inadvertently discovers that he's a robot. The video switches between human and robot perspective – first we see the human face (Miser) brushing his teeth, getting to work, getting an earful from his boss (the cyclops style floating robot), then we switch to see Miser as robot. The baggy jeans, the attitude, the feeling of talent forcing itself through the motions of a dull job – the transition from human to robot is obvious, but the character remains the same throughout.

## Existential design

"Pete's song poses a series of existential questions," says UVPH's senior producer Brian Welsh. "What are humans? What does it mean to be alive, to be a person? We all enjoyed exploring what this robot was like, questioning people's habitual behaviours and the living of an unexamined life. It was

these questions which sparked the idea of a split reality: what the robot perceives and actual reality."

Work started in the summer of 2004 when Miser commissioned UVPH to create the video. "We got to work shooting the live-action footage in a variety of New York locations: subways, a Manhattan office tower after hours, an apartment and even in the bathroom of our offices," says Welsh.

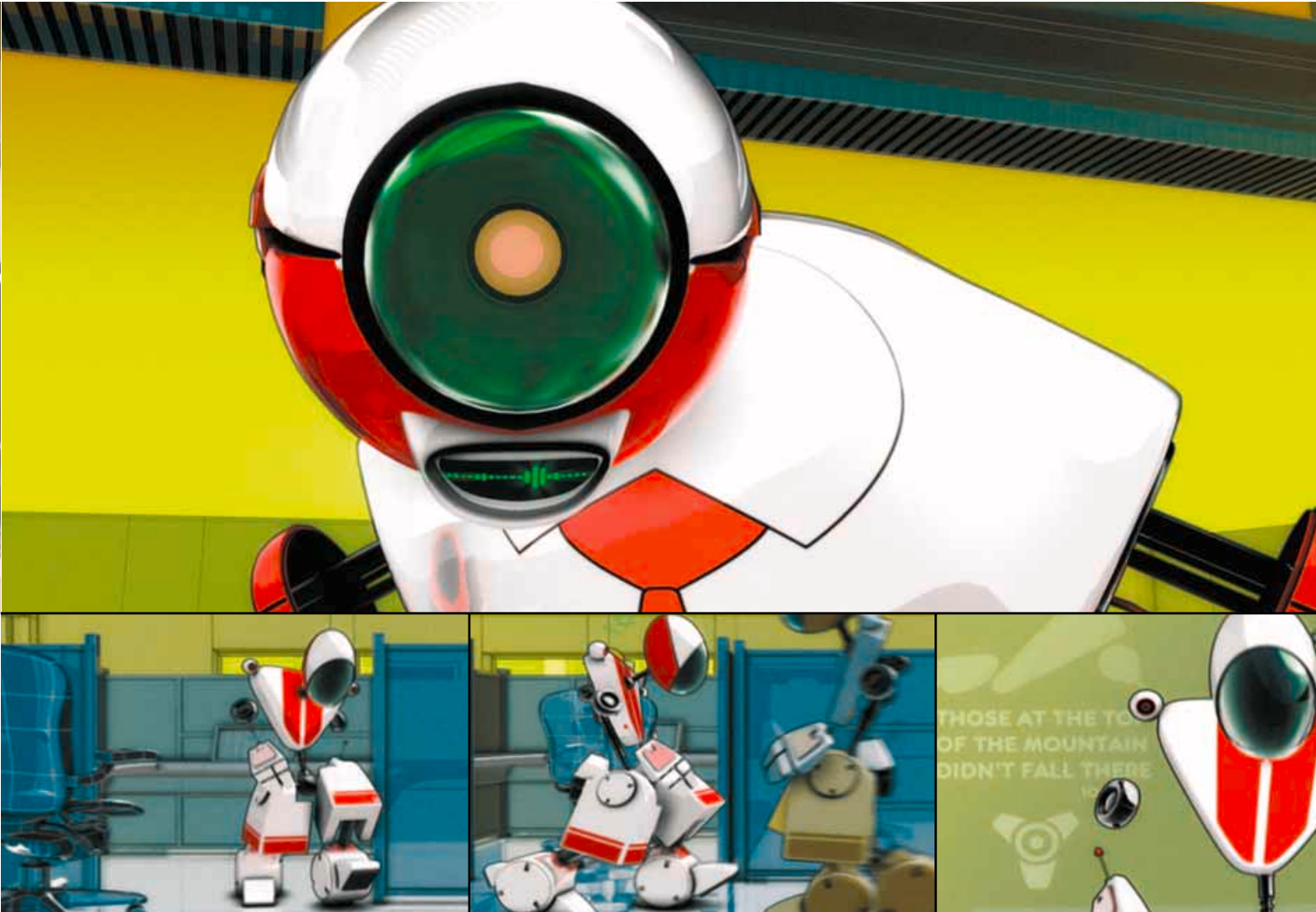
"Things really clicked when we heard *Scent of a Robot*. I thought the lyrics were powerful, but I didn't want to just illustrate them, I wanted to find an unusual angle," says UVPH creative director Alexandre Moors. "The lyrics are about a guy who finds out he is a robot. I thought it would be interesting to have a robot schooled in all the human behaviours, who sees things through 'human' eyes, who thinks he is 'more human than human.'"

The 'more human than human' theme is the company's nod to *Blade Runner* – in classic sci-fi movie the phrase is the slogan of

## Credits

**Project:** Music video  
[www.uvphactory.com](http://www.uvphactory.com)  
**Client:** Pete Miser, Ho-Made Media  
**Production:** UVPhactory  
**Director:** Alexandre Moors  
**Producer:** Brian Welsh  
**Senior 3D:** Jake Slutsky  
**Tools:** Adobe After Effects 6.5  
Adobe Illustrator  
Adobe Photoshop  
Apple Final Cut Pro 4.5  
Softimage|XSI 4.0





the company that designs the Replicants.

Moors continues: "He has a robot wife, a robot co-worker, commutes in robot subways. It's a metaphor for all of us – we can be formatted, programmed like robots and run nine-to-five. So we wove in as many jokes as possible – the video is full of little quotes and motivational posters on the walls of the corporate office, all the guys riding the subways are robots with their robot iPods."

Moors added, "I gave everyone at UVPhactory an assignment and encouraged them to let their imaginations and creativity run wild, to enjoy themselves. For me the greatest challenge was the creation of the robots – to make them original. Everyone is making robots these days but I'm really in love with our little character. He's a cartoony mix – a modern Steamboat Willie actually modelled on Pete Miser himself.

## WE HAD ONE OF THOSE 'HOW TO' HIP HOP VIDEOS, SO I STUDIED IT FOR A WHILE, DID SOME OF THE MOVES AND PUT A SEQUENCE TOGETHER FROM THAT

RYAN BRADLEY

He wears baggy shorts, has big hands, short arms and a lazy gait, like a young urban hip-hop kid. The end product is fresh and sunny, which is much harder to create than dark and cynical."

### Making robots dance

Lead character animator Ryan Bradley worked hard to get the character right. In an interview with *mvwire.com* he explains how he fused hip-hop with the robot's look: "The animation that took me longest – even longer than the dance scene – was the walk cycle, the animation in the street. The robot will take one step and then you cycle that over and over again and make him walk from place to place.

"It took me so long to get the right balance of a smooth, laidback hip-hop guy with the rigid, robotic movement of the robot. If you watch

him he looks like he has this really cool little walk but it's also where he likes to pause in between. It took me so long to get that, but I was happy about the way it came out in the end."

When it came to getting the robots to dance, they looked to Miser for guidance. Bradley explains, "We knew he had a good collection of hip-hop videos so he brought in a couple of his favourite guys. We had actually bought one of those 'How to' videos about hip hop dancing, which takes you through step by step, and I studied that for a while. I just did

some of the moves and worked with the editor Damien Baskette. He developed and edited together some of the different clips of videos that we really liked. If we liked the footwork or the arm movements from the dancers, he edited a sequence for reference for me and I would study it.

"We went through that and I animated the robot and improved upon it as best as I could, given how the robot could move – the robot can't move like a human. That's what the imaginative part of it I guess."

The company's senior designer and 3D

animator Jake Slutsky oversaw much of the technical process. "I was responsible for the 3D lighting and texturing and handled the transition of elements from 3D to compositing," he says. "After testing several looks, Alex and I really wanted to create a unified aesthetic, to match the red and white hues of the treated footage. Using Softimage|XSI's toon shader as a base, we built custom shaders to couple the hard-edged toon look with a more natural soft shading. In order to achieve shorter render time, we overlayed 3D wireframe captures and used compositing techniques to more clearly illustrate and pronounce 3D elements within the space.

"The transition from 3D to 2D was exceptional thanks to a plug-in by MindThink Tools that allowed us to export the XSI camera animation to After Effects. With this plug-in we were actually able to lay in 2D graphics and different overlays within 3D space without having to produce everything in XSI. This kept the workflow pretty flexible and design-oriented, and allowed the treatment to mature into the final look."

Everyone was happy with the final look, including Miser, who says: "The video is so pro, so creative and so absolutely mind-blowing I have to admit I got 200 per cent more video than I ever expected. I was blown away by their efforts. And as it turns out, I'm much better looking as a cartoon character."

By Matthew Bath and Ed Ewing



# ILOVEDUST

With clients like Marks & Spencer and Hugo Boss on their books, newly established creative design trio iLovedust are making waves from their seaside base in Southsea.

By Ed Ewing

iLovedust  
77B Castle Road  
Southsea  
PO5 3AY  
Tel 023 9286 4038  
[www.ilovedust.com](http://www.ilovedust.com)

**L**ike a lot of companies, iLovedust was established by a couple of designers hacked off at working for the corporates. "We set up our studio in the seaside town of Southsea about 18 months ago," says founding partner Mark Graham. "We were getting very pissed off about not really being given a chance to express our ideas on design and both felt we had more to give."

"We started getting a few small jobs together and took the plunge in May 2003. It has been very hard work, late nights and excessive coffee consumption ever since. However, we are really happy with what we've achieved in that time."

Achievements include winning

high profile clients like Marks & Spencer and Hugo Boss as well as a plethora of smaller companies.

"Our philosophy is simple," says Graham. "We just want to produce really nice work for our clients and keep them happy and smiling." He admits: "The actual business side of it can be very hard to organize at times, and we've had to learn the hard way on a number of occasions."

Typical of many small design companies, they rely on their creativity, style and determination to get them through. But also typical is their uncertainty over defining their style – too much analysis can destroy the magic.

"I think that our style is an

unknown beast with about 40 legs," jokes Graham. "We enjoy so many different things and take so many influences from all over, so it's quite hard to put a finger on it. I think describing our work as subtly sweet and a little evil in places would make us happy."

Graham's design partner, Ben Beach, agrees. "It's a funny thing to try and analyze our style. We often get asked to make something a bit more 'dusty', so I guess there must be a clear style in our work. We all sit back and think: 'Dusty? What do they mean?' Like Mark says, I suppose we have a cute front with some dark undertones."

## Milestones

Reviewing the first 18-months of their company, there have been some real highlights.

"Charlotte Hatherley was a personal milestone for both of us," says Graham. Hatherley is "the unofficial queen of Britrock" according to London radio station XFM, and was asked to join Ash as their guitarist when she was 18. iLovedust created the artwork for her first solo album.





Charlotte Hatherley's first album was also iLovedust's first album cover. Below is a mock magazine DPS featuring comedian David Walliams, and a Nike sneaker, sold at newly-designed Deluxe Store in New York.



"Our first album cover," says Graham. "Nothing prepares you for walking into Tower Records and seeing your work 10-feet wide in a display. Charlotte cracks me up and it's nice when relationships blossom through work."

"Many of our projects have been milestones for us," agrees Beach. "The Charlotte Hatherley job really pushed us and involved steep learning curves. We got the job after designing a Web site for her label. We built up a good relationship with the label and have worked closely with some of their artists like Ash and The Ludes, but being given the job to design Charlotte's album

artwork was a real treat.

"It began with a few meetings to get an idea of the sort of look and feel she was after as it was her first solo release. It was as much a branding exercise as an album cover. She asked for a Bowie-esque approach so after researching albums of the 70s and early 80s we began designing. We then presented some of the more polished ideas to her and after a few late-night calls from Ash's tour bus we had the concept nailed."

Another great job, says Beach, was working on the Per Una range for Marks & Spencer. Per Una was bought by the beleaguered British High Street giant in an attempt to

**NOTHING PREPARES YOU FOR WALKING INTO TOWER RECORDS AND SEEING YOUR WORK TEN FEET WIDE IN A DISPLAY**

MARK GRAHAM

turn its fortunes in women's-wear around. It has been one of M&S's few recent successes. "That has been so beneficial to us. We knew we needed to impress them so we started with a few small jobs that exceeded their expectations, and slowly we began to get bigger and bigger jobs from them," says Beach.

"Ben's right," says Graham.

"Marks & Spencer are some of the nicest people to work for. Very willing to listen and contribute ideas as we go. Nothing is ruled out and that is a wonderful way to work with people. I remember the moment we had a letter confirming we were an official supplier. I think we had a few drinks that night." □



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## Who's who

*Lovedust was founded by Ben Beach and Mark Graham. Susie Hetherington is the third member. This is what they think of each other:*

### Ben on Mark

*"Mark's a doer. He'd ring the Queen and ask if she wanted a new coat of arms if he could find the number."*

### Ben on Susie

*"Susie came in to the studio on a work placement and soon became invaluable to us. She has six arms, each attached to a Wacom tablet so she can handle as many jobs as we throw at her."*

### Mark on Ben

*"He loves his fonts and knows more about Illustrator than anyone else I know. He's a great designer and a sucker for detail. But he does make terrible tea, and I do mean really, really bad."*

### Mark on Susie

*"My God – she is so super organized it worries me. She relishes some jobs we just can't face, and design-wise she really brings a nice touch to what we do, I've yet to put my finger on quite what it is but that makes it all the better."*

*Continued over...*



*In a nutshell the project is called Designed to Help and it's something we're developing in an effort to raise money for the tsunami disaster. We're aiming to publish a book*

At the other end of the scale, and a world away from the knicker elastic and buttoned-up cardys of M&S is Deluxe Store, a sneaker shop in the States.

"Deluxe Store was a great achievement too – our first client from America. It felt so good knowing we had made some kind of impression over there. The project of designing and branding a very cool sneaker store was almost too good to be true," says Graham.

"Since then we've completed another project for a store in Manchester called Hussain's Shoe Parlour in an old Barber shop in Tib

Street. We helped renovate and convert it into a very specialist little clothing and sneaker store. We kept all the original features and sourced the rest – everything from Barber's chairs to mirrors and artwork."

### Tsunami relief

Their most recent project is in response to the Asian tsunami. Graham explains: "In a nutshell, the project is called *Designed To Help* and it's something we're developing in an effort to raise money for the tsunami disaster. We wanted to apply our skills and energy to help.

"We're aiming to publish a graphic design book showcasing the work of a whole range of artists, with all profits raised going to charities working in Asia."

The support shown by the graphic design and print industry, says Graham, has been inspiring.

A big plus was when specialist book publishers Die Gestalten Verlag came on board a week into the project to handle publishing and distribution worldwide and there is an impressive list of contributing designers and artists on the Web site ([www.designedtohelp.com](http://www.designedtohelp.com)).

### T-shirts

"We are never sure quite where we are going next," admits Graham, "that's the fun of it". However, a recent foray into the world of T-shirt design has been a lot of hard work. "It's taken 18 months to finally see the light of day," says Graham. "We've just previewed our first T-shirt collection at a Berlin trade show, Bread and Butter. We've wanted to do tees for so, so long that it's a real boost to finally get our ideas out of our heads and onto some nice white cotton.

Beach agrees: "The clothing range is a big plus for us and

Bags and Web design for  
New York sneaker shop  
Deluxe Store. CD package  
design for Marks & Spencer's  
Per Una range and (below)  
Bambi with blood.

## Who's who *continued...*

### Susie on Ben

"Ben threatened me before writing this description. Despite this, Ben is a nice guy. He teaches me an Illustrator trick nearly every day and his design is pretty damn sharp."

### Susie on Mark

"Mark has the sort of energy and personality that keeps the iLovedust ball rolling. Occasionally we spin off course with all that ambition but somehow Mark has the ability to steer us back. He contributes all this and brings his Labrador, Heskey, along for the ride. All these elements keep us going, keeps our studio lively and our work fun and fresh. And he's a damn good designer (Mark, that is – though given a chance I'm sure the dog would do his best)."



*We're Apple geeks at heart, they never make a bad product. The new iMac is so cute I want one just to look at. I wish they'd make an Apple coffee maker with FireWire too*

showing a range at an exclusive show like Bread and Butter is a great way for us to get it rolling, so that's one area I feel we'll be working in for the foreseeable future. Another area we're delving into is animation – we are currently working on a few music promo's with some great illustrators and animators."

In fact, music is a big influence on iLovedust. "I find a lot of inspiration from work produced for the music industry," says Beach. "Whether in the form of album covers or promos, there is so much to be inspired by in the changing

styles and design approaches. I love nothing more than finding old packaging or posters, especially from the 60s and 70s. You see these graphics coming back now."

### Studio life

The company uses the Adobe CS tools for print, and the Monkey Interactive Suite for interactive.

"The Adobe packages are very usable and generally serve all the needs we and our clients have," says Graham. "Quark is the older workhorse of the industry and Streamline helps us jump between Mr Pixel and Mr Vector." But, he



*The iLovedust Mac-laden workspace.*

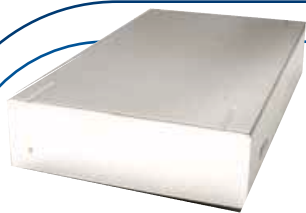
concludes: "the pen, paper, and doodle are still the mighty sword of creativity."

Like most of the industry, Graham says iLovedust are big Apple fans. "I wish they'd develop an Apple coffee maker with FireWire," he says.

Graham believes being a small independent let's the iLovedust crew do what they love and earn a living at the same time.

"You never know what's around the corner in this industry. The highs and lows guarantee a pretty varied job. It's all good. You forget the bad bits pretty quickly."





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# THE FORCE OF 2D ANIMATION

**Genndy Tartakovsky is behind some of the best-loved cartoon creations of the last decade. And, as he prepares to create for the big screen, he predicts a triumphant return for 2D animation.**

who Genndy Tartakovsky  
what *Star Wars*: Clone Wars  
where Toonami, March  
words Andy Penfold



**A**claimed animator Genndy Tartakovsky says it's only a matter of time before Nemo is found out. 3D dominates 2005's animation landscape, but Tartakovsky believes 2D will come back – and he could be the man to bring it about.

Tartakovsky has been one of the leading lights in traditional animation for over a decade – and he's still only 35. He's the creator, writer, and director behind the hugely successful cartoons *Dexter's Laboratory* and *Samurai Jack*, and when George Lucas wanted an animated series to precede the *Star Wars Episode IV: Clone Wars* movie, Tartakovsky was the man he called.

"I'm a traditionalist to a fault," he says. "I really love simple 2D animation. I have an appreciation for 3D, but its success still comes down to story and character."

"To get a job at Pixar, for example, you still have to know how to draw," he continues. "And you have to know the basic foundations of animation. So, they still teach that in schools and you still have to have a foundation in drawing to become an animator – even a computer animator."

Born in Russia, he emigrated with his family to live in Chicago when he was just seven. His education in animation started immediately. "When we emigrated, it was really the first time I watched television," he says. "There were all these different cartoons and TV shows and I guess I just fell in love with it."

It soon became clear that Tartakovsky's love of cartoons was more than just a childhood obsession. "For some reason, I never grew out of it. I've talked to other animators about this. What happens to us? Why do we want to do this? It's a weird mental defect."

For Tartakovsky, his preference and passion for 2D cartoons harks back to being a kid. He says the sheen of 3D takes away the child-like urge to draw the things he sees. "It's hard to look at a 3D film and then go draw the characters, because you can never really get it to look right. Even after I saw *The Incredibles*, no matter how much I liked it, I didn't come home and want to draw it." The accessibility of 2D animation makes it a more involved media, he says. "There's something about the hand-made feel to it – the imperfection – that makes it more real, more human."

The classic 70s cartoons inspire Tartakovsky's style – *Popeye*, Warner Brothers, and Hanna Barbera played a big part in his childhood. "My style is rooted in traditional cinema," he says. "It's very streamlined, without any excess."

Tartakovsky studied film at Chicago's Columbia College, before moving to LA to study animation at Cal Arts. It was here that *Dexter's Laboratory* was born. *Dexter's Laboratory* is based around the relationship between a science-obsessed boy who has a secret laboratory in his bedroom, and his artistic big sister.

The premise came from a student assignment to create an animation with a dancing girl. Tartakovsky's dancing girl ended up as Dexter's big sister.

In 1993, while working at Hannah Barbera, one of Tartakovsky's producers encouraged him to show Dexter to the fledgling kids' channel Cartoon Network. The show has now been running for ten years.

This meteoric rise was rare for a young animator. "Back then nobody had shows – you had to be a seasoned veteran," says Tartakovsky. Now, though, he believes there is greater opportunity.

"Nowadays you can sell an idea straight out of school," he says. "If I was going to school now, I could make my own show with colour, sound, everything, all on a computer. Easy. You can take a lot more chances because it's cheaper and faster. Instead of pitching with storyboards and drawings you could pitch a whole pilot."

The success of *Dexter's Laboratory* gave Tartakovsky the freedom to create his own shows. *Samurai Jack* was another of his creations, and represented a bold move from comedy into action. But Tartakovsky was delighted when the opportunity to do an animated *Star Wars* series arose.

"I love the way *Star Wars* feels," he says. "I really wanted to replicate that. Even though it was animated, I still wanted it to feel like *Star Wars*."

He's a fan of war films, and, since the *Star Wars* series consisted of three-minute episodes, Tartakovsky came up with doing a *Band of Brothers* take on the Clone Wars – "vignettes in the grand scheme of war".

It was the first time Tartakovsky had worked on licensed property, so the project required a different approach to characterization. He says Dexter was easy to characterize, because he was Tartakovsky's creation. "Star Wars characters are very established. So when we started writing dialogue I wasn't really sure – is that what Anakin would say? Finally we just started to analyze it and go with what feels right for who he is."

The visual representation of established characters like Obi-Wan Kenobi and Padmé Amidala also required a sense of the "feel" of the characters. "We wanted to spend less time worrying about Ewan McGregor and more time worrying about Obi-Wan Kenobi," says Tartakovsky. "We started with a caricature, and then streamlined from that point. And then we got to something that feels like Anakin, but maybe doesn't exactly look like Hayden Christensen."

*Star Wars* was a dream project, so what's next? "I think a feature film is likely to be my next project," he says. And, despite Hollywood's preoccupation with 3D, he's confident 2D can still capture the imagination. "I think somebody will do something different – hopefully it'll be me – and 2D will come back."





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## 1-5 DAVID RONDEL CAMBOU

[www.hellohikimori.com](http://www.hellohikimori.com), [david@hellohikimori.com](mailto:david@hellohikimori.com)

David Rondel Cambou is a French graphic designer who has worked in the industry for ten years. He began his career in France at a fashion brand as designer.

He published the award-winning overage4design Web site in 1998.

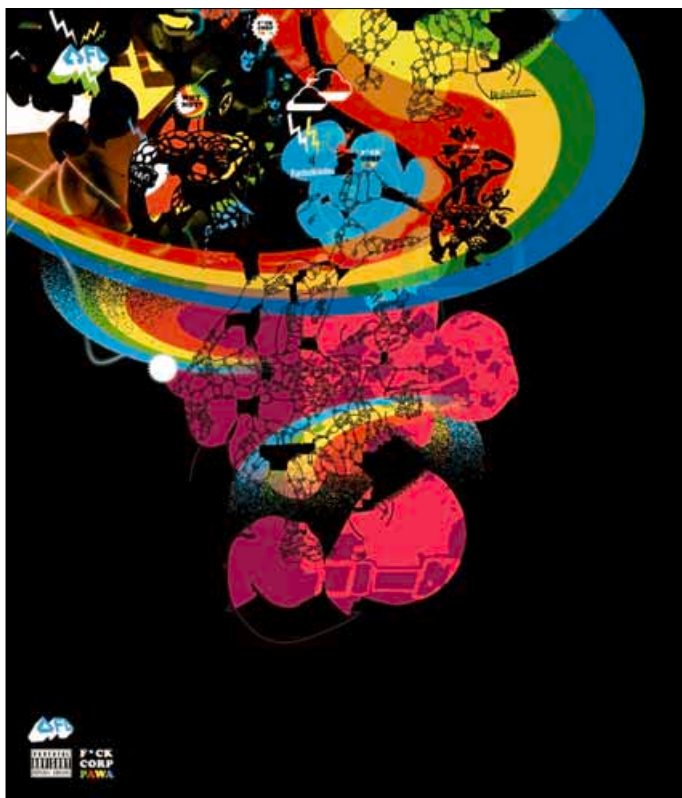
The purpose of the site is to generate an interactive narrative story that serves as an exhibition of his personal work.

Cambou also takes part in events such as the Flash Festival in the French National Museum

of Modern Art in Paris. Cambou is now back in Paris after four years working in a big corporate agency. During that time, his clients included L'Oréal Paris, Evian, Mini, Mentos, Adidas, Krups, and Dior.

He met art director Nathalie Melato while working at the agency. Together they decided to set up their own design studio. It's called HKI ([hellohikimori.com](http://hellohikimori.com)).

HKI is a Paris-based agency, working in print, Web design, and broadcasting.



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### 1-2 KRYSTIAN POLAK

[krpolak@hotmail.com](mailto:krpolak@hotmail.com)

Krystian Polak is a 3D computer graphics artist. He was born in Poland, and currently lives in Sydney, Australia.

"I like to develop an idea in my mind and transform it into an unpredictable 3D image to challenge an audience's expectations," he says. "I have a strong photographic background, and this allows me to explore the limits of realism, especially the way an image can effect the viewer's feelings and impressions."

### 3-6 IAN KELTIE

[www.iankeltie.com](http://www.iankeltie.com), [ian@iankeltie.com](mailto:ian@iankeltie.com),  
07876 367 948

Ian Keltie is a magazine designer, and has also been working as a freelance illustrator for three years. He has illustrated for various clients including Citroen, Nissan, the BBC, and *The Mail on Sunday*.

"Photoshop is king," he says, "but I also use Illustrator, a biro, and my digital camera."

He says he has ambitions to do a record cover. "I'd also like to see my images move, I just need to conquer an animation programme," he adds.





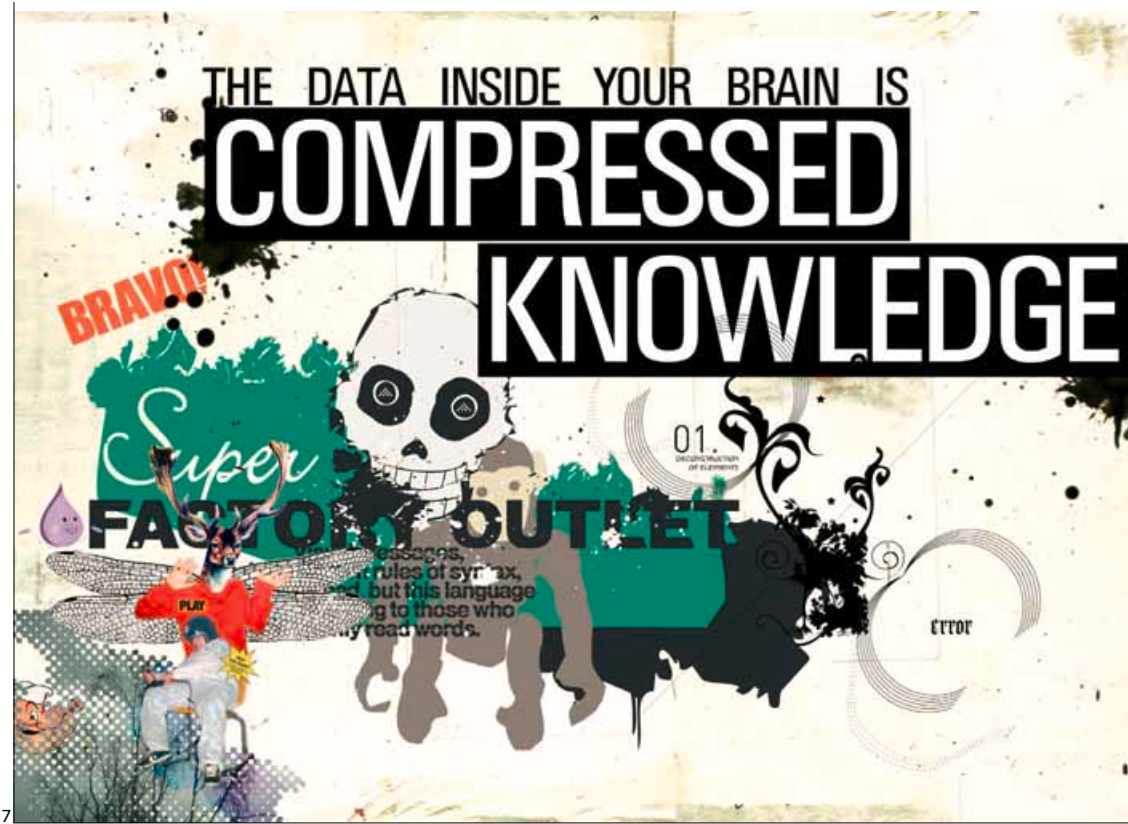
# 7-10 TEIS ALBERS

[www.hypnoteis.nl](http://www.hypnoteis.nl), [www.graphik.nl](http://www.graphik.nl),  
info@graphik.nl, 0031 (0)6 280 66 253

Teis Albers is a 22-year-old designer based in the Netherlands. He started Hypnoteis in 2000. Hypnoteis is a showcase Web site for Albers' design experiments and other creative pieces. He says the site represents the "workflow of a free designer".

Albers studied graphic and multimedia design in Eindhoven. He currently works in print and Web design at his own design studio, called Graphik.

"In the future, I hope to expand my client base," he says, "and work together with designers who have the same passion and attitude to work that I have."







## 1-2 ILESH PARMAR

[www.parmar-serafini.com](http://www.parmar-serafini.com), [info@parmar-serafini.com](mailto:info@parmar-serafini.com)

Ilesh Parmar is partner and lead designer of Parmar-Serafini Graphic Designers, a firm based in Ottawa, Canada. With qualifications in industrial design, graphic design, and Web design/multimedia, and a background in the visual arts, Parmar has been honing his skills as a digital illustrator for the past few years, primarily using Adobe Illustrator.

"I've always wondered how far I could push vector graphics – how much I could blur the line between

a photograph and an illustration," he says. "I love the scalability and crispness of vectors, and the fact that resolution isn't an issue makes the application possibilities endless."

Although most of his work reflects a hyper-realistic style (all work shown is 100 per cent Adobe Illustrator), Parmar has completed many projects, in a wide range of styles, including cartoons and technical illustrations, some of which can be seen on the Parmar-Serafini Web site.



## 3-8 ANDY POTTS

[www.andy-potts.com](http://www.andy-potts.com), [info@andy-potts.com](mailto:info@andy-potts.com), 07817 159049

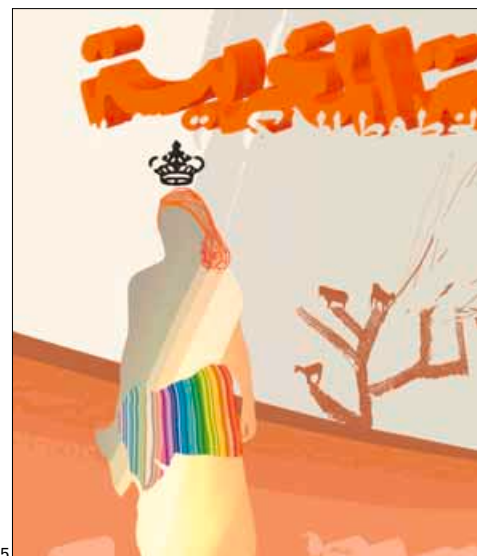
Andy Potts was born in Dudley, England in 1973. He studied illustration at Portsmouth University, and graduated in 1995. "I discovered the computer shortly after that and pursued a career in new media, working on PC games and designing interfaces and motion graphics for CDs, TV, and video," he says.

Now based in London, he is the lead designer at Abbey Road Interactive, part of Abbey Road Studios, creating DVD interfaces,

Web sites, and animations for acts such as Coldplay, Radiohead, U2 and David Bowie. He has also designed the sites for Abbey Road Studios ([www.abbeyroad.com](http://www.abbeyroad.com)) and Interactive ([www.abbeyroadinteractive.com](http://www.abbeyroadinteractive.com))

Potts is a freelance illustrator/ animator too, and has worked for clients such as TBWA-GTT, Random House, *The Guardian*, and *Time Out*. He has also animated sequences for various short films.





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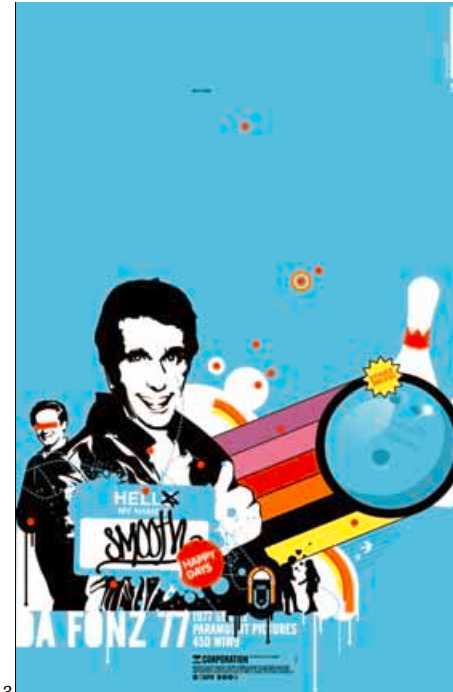




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# 1-7 DAVID FIRTH

[www.keepsmesane.co.uk](http://www.keepsmesane.co.uk), [mail@keepsmesane.co.uk](mailto:mail@keepsmesane.co.uk)

Keepsmesane is the experimental platform of UK designer Darren Firth. After completing a degree in creative imaging, Darren moved straight into digital media, and has been head graphic designer at a multimedia company in Huddersfield for the last five years. Firth has recently joined the team at [www.un.titled.co.uk](http://www.un.titled.co.uk) as senior new media designer, where he will be working with a client list that includes Speedo, Ben Sherman, Puma, and Lacoste.

Firth is also the founder and brand manager of the WEARITWITHPRIDE project, which showcases badge designs by some of the most

respected illustrators, designers, and creatives from around the world. The project provided a solid platform for the WIWP Unplugged exhibition which was launched in London in 2004.

Firth has his own t-shirt label at [www.branddead.com](http://www.branddead.com), is a member of the graphics team at US-based [www.theroyalmagazine.com](http://www.theroyalmagazine.com), and is part founder and member of the exciting new collective [www.sambukisocial.com](http://www.sambukisocial.com). "I love design, but I try not to take it too seriously," says Firth. "Design isn't everything, it needs to be mixed with other stuff!"



7



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PROFESSIONAL DESIGN TECHNIQUES FOR DIGITAL ARTISTS

# #10 SURREAL DIGITAL PHOTOGRAPHY

## COMPOSITING PEOPLE

**C**ompositing people into scenes where they never actually existed can be among the most challenging of digital manipulation tasks. To make things really difficult, we're going to composite a girl into an underwater scene and see how we can overcome all the problems associated with underwater imagery.

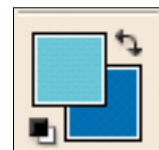
1. First of all, make a selection of the girl, then drag the selection into the pool image position in the bottom-right corner.



2. The scale of work required to make this idea look convincing now becomes apparent. The properties inherent in underwater photography make merging a person photographed on the surface a real challenge. The first problem is an object's buoyancy when submerged in water. The girl's flat, undisturbed hair is a dead giveaway immediately. To fix it, go to Filter > Liquify. Using the Liquify Warp tool, drag a few bits of the hair to form sweeping curves.



3. Colour is our next biggest problem. The overall water scene is a number of shades of blue. We need to copy these and apply them to the girl. Using the Eyedropper, sample a pale blue and a deeper blue for the foreground and background colours.

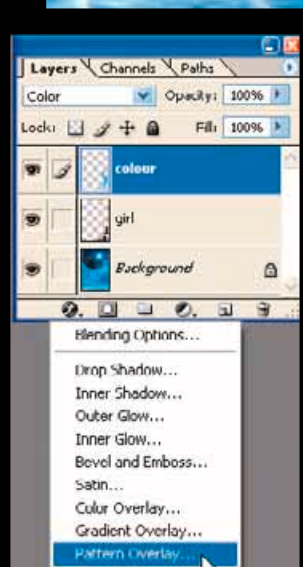
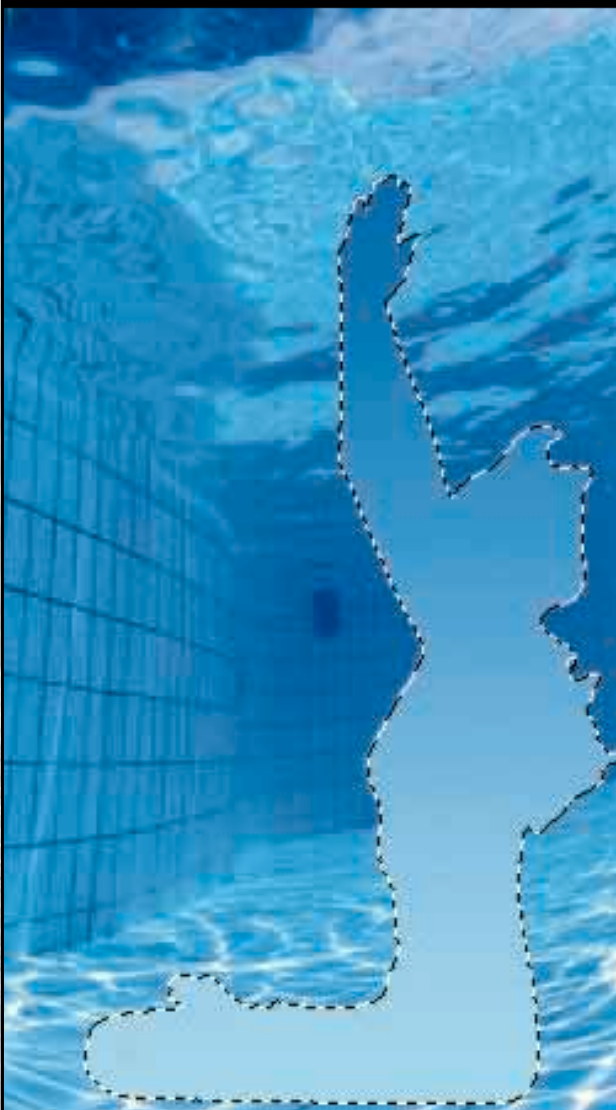


4. Load the selection of the girl by pressing Ctrl/Cmd + clicking the girl layer in the Layers palette. Now create a new layer called 'colour' above the girl layer.





5. Select the Gradient tool and drag a linear gradient, using the Foreground to Background option, from top to bottom through the selection.



6. Deselect the girl and change the colour layer's blend mode to Color.

7. Things are now starting to look believable, but not quite realistic. The highlights and shadows generated by the wavy surface of the water are a strong characteristic of underwater images, particularly on objects close to the surface. This pattern can be seen on the floor of the pool, and it would also be visible on the girl. Putting it there is our very next task. Add a Pattern Overlay layer style to the colour layer by clicking the Layer Style icon at the bottom left of the Layers palette.



# #10 SURREAL DIGITAL PHOTOGRAPHY

8. In the Pattern Overlay dialog box, it may be necessary to load the required pattern set for our purpose. Click the pop-up menu button as shown to reveal the available pattern options. Choose the set called Patterns, then choose the pattern called Zebra from the top row of the swatches that appear.



9. This pattern is a good replica of the pattern created by the water surface. Change the blend mode to Overlay, the Opacity to 35 per cent, and scale the pattern up to 269 per cent. All the settings used are shown in the example.



10. Suspended matter and reduced light are two of the main factors that affect visibility underwater. Even in a small swimming pool, diminished visibility will be apparent. The girl is just a little too well-defined at present. With the girl layer active, go to Filter > Blur > Gaussian Blur. Apply a radius of 0.5 pixels. This is just enough to take off the sharp edge from the picture. Now reduce the girl layer's Opacity to 90 per cent.



11. Just one step remaining. The outline of the girl is still very well-defined. This is common in many photo composites, not just those involving water, and it gives the image a distinct cut-out feel despite all the hard work on other elements. So a technique you may need to call upon often is a blurred border selection. It sounds like a lot of eye-strain and mouse-clicking is involved, but it's actually very automated and fast. Load the selection of the girl as before by pressing Ctrl/Cmd + clicking the girl layer in the Layers palette, then go to Select > Modify > Border. Enter three pixels as the Width.





12. At first glance, it seems as if the selection has not changed, but zoom in and you'll see the selection has been turned into a border – not something you would want to try manually. Now we can blur just the edge of the girl to lose those crisp 'cut-out' edges without affecting the clarity of the girl herself. Apply a Gaussian Blur with a Radius of 2.0.



13. Keep the selection active and repeat the process on the colour layer to complete the image.



## SURREAL PEOPLE

Siren by Laurence Acland

**L**ayer Masks and filters can work together as a very effective means of effortlessly combining images. Siren, by Laurence Acland, artfully mixes traditional film photography with digital techniques to produce a striking image that is composed of two separate shots of the same model.



### Shooting and Scanning the Images

I began this collage by shooting the model twice, once with the mask on and once without. A Hasselblad with a 120mm macro lens and Ektachrome film were used. Care was taken to keep the lighting and the position of the head as close as possible in each take. I still shoot on medium format as much for detail as for 'feel'. I know the digital cameras are getting very good (and I use a Nikon 5000 for some of my landscape work), but my comfort level after 25 years of using a Hassey often wins out in the studio. I next scanned in the film using my workhorse Nikon 8000. I kept the file sizes big (around 150MB) since my intention was to produce big Giclée prints for gallery presentation.



### Aligning the Images

Bringing the images into Photoshop, I pasted the masked face over the unmasked one, at first keeping the transparency down so I could align the two shots as best as possible. I made sure the outside edge of the mask lined up with the cheek.



### Painting the Layer Mask

Next came the crucial part of joining the two images successfully. I added a Layer Mask to layer 1 (the masked face) and using a large airbrush (750 pixels) began painting black into the Layer Mask. Wherever black is painted in the Layer Mask, it hides the pixels in that layer. Thus I was able to gently obscure the unwanted parts of the mask and reveal the face beneath. By toggling back and forth between black and white, I added or subtracted bits of the mask in the composite until just the right blend was created. To 'fix' the shadowy left eye, I used a smaller airbrush (30 pixels), again painting in the Layer Mask until just the right amount of the eye in the Background layer was revealed. When a gentle brush stroke makes all the difference, the use of a Wacom graphics tablet is indispensable.



If you enjoyed this Masterclass, extracted from *Surreal Digital Photography* by Barry Huggins and Ian Probert (£17.95), you should log on to [www.ilex-press.com/digit](http://www.ilex-press.com/digit) where you can receive a 20 per cent discount, enter ILEX's great competition, access free tutorials library, and get in touch with a well-known ILEX author (and digital professional) via the forum.

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## Adding the background painting

I then added the Dutch painting as layer two, choosing the Blend mode as Overlay, and once more added a Layer Mask to that layer, painting into it with black to hide those details obscuring the face. To get a better blend down at the bottom of the image I duplicated layer two, compositing the new layer as Normal blend mode, reducing the Opacity, and once again painting into the Layer Mask to obscure the unwanted bits.



## The finishing touches

To complete the work, I flattened the image before saving it. To give the image a painterly look, I first filtered the image with the marvelous buZZ filter (visit [www.fo2pix.com](http://www.fo2pix.com) for details), which gets rid of excess detail while retaining edge sharpness.

With the History brush, I brought back some of the detail in the eyes and face, using the saved flattened version as my history point. Next, I ran the Melancholytron filter (see [www.flamingpear.com](http://www.flamingpear.com)) over the image to create a vignette effect, giving it a sepia cast and softening the area outside the face.

To prepare the work for exhibition, I asked my service bureau to print it on heavy Arches watercolour paper, which I had shadow box-framed to complete the 'arty' look.



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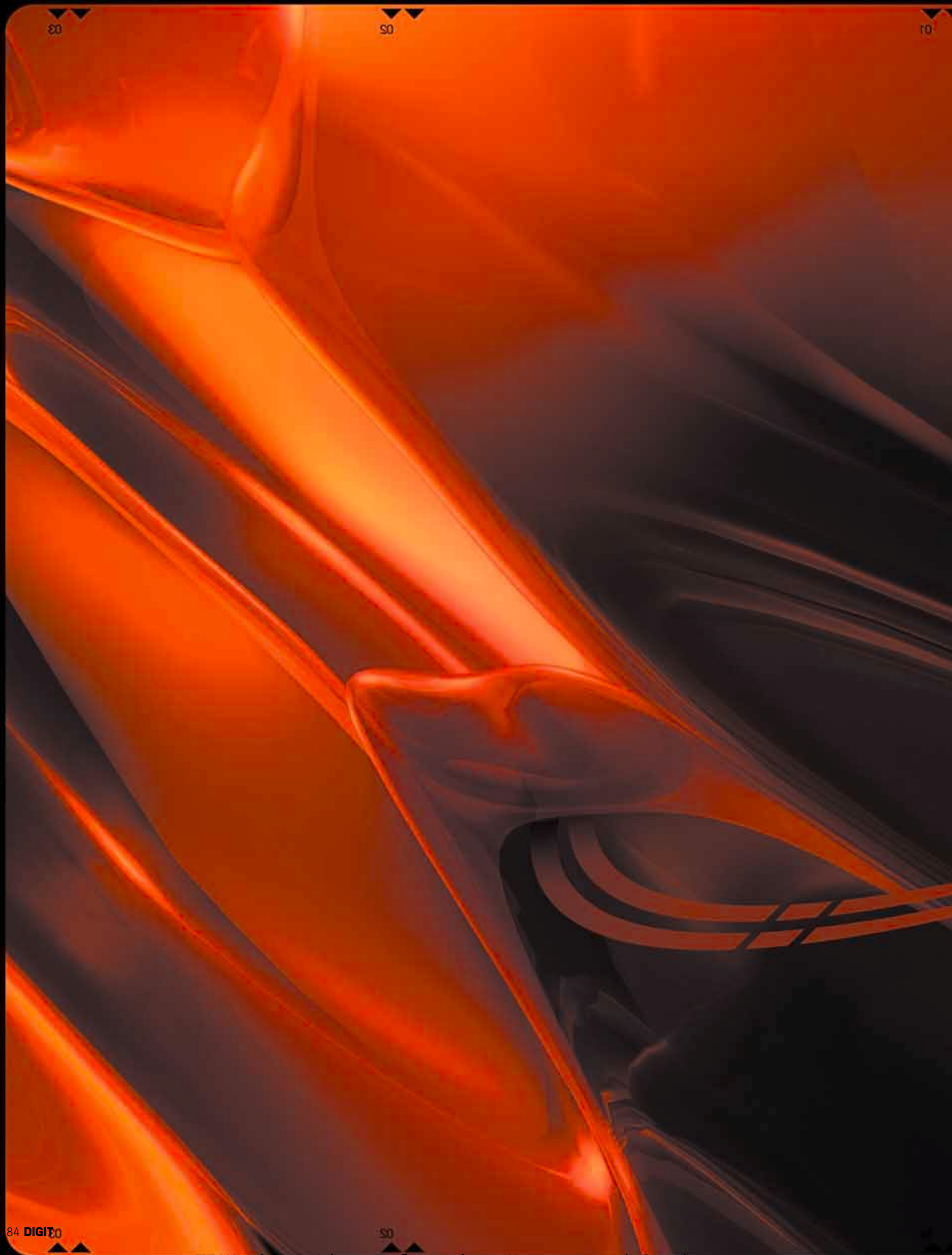
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format Mac/Windows

price £2,150 plus VAT

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contact OpTex, [www.dvwarehouse.co.uk](http://www.dvwarehouse.co.uk), 020 8441 2199

accessories HVR-M10E deck, VCT-FXA shoulder brace, 0.7X Wide Angle Lens, proxy mode system

**pros** Exceptional output quality at 1080i resolution. Shape and layout taken from PD170 and VX2100 camcorders, with quick access to most controls through buttons. Offers low-cost access to HD capture.

**cons** Limited manual controls. No XLR inputs. Z1 due soon. Menu system tricky to use due to button/screen positioning.

Digit Rating ★★★★★



Above. Even at full zoom and with moving environments featuring vastly differing levels of luminance, the autofocus system keeps its head – though it's still noticeably slower than that found on professional-level DV camcorders.

HDV has caused as much furore among video professionals as its predecessor DV did back in the late 1990s. Differing opinions over its usefulness have led to heated arguments over whether it's 'pro' or just for consumers, whether the MPEG-2 compression at its heart is better or worse than DV, and whether a compressed version of HD is a stupid idea in the first place.

Enjoyable though a good row can be, this is largely irrelevant. As with all new technologies, it's how they're implemented that counts. The first HDV camcorder, JVC's PD1 (and its pro-but-30fps-only brother the HD10) was a great consumer camcorder, but hardly a pro's main camera – though its light weight gave it niche applications such as when the BBC hiked it up Everest.

Now we have Sony's HDR-FX1E, which is the first HDV camcorder to record in 1080i, the interlaced variant of HDV that records at 1,440-x-1,080 with a 16:9 widescreen aspect ratio. This means that 1080i picture has 70 per cent more pixels than the 1,280-x-720 720p format used by the PD1 and HD10 – though 720p does have the advantage of being progressive. It's almost four times the resolution of conventional PAL.

The FX1 will be followed in March or April by the £2,950 plus VAT HVR-Z1E, which adds the same features that separated the PD170 from the VX2100, including more manual controls, colour bars and XLR inputs.



The FX1's design is very much based upon the barrel-shape of Sony's VX2100 and PD170 – though with a little more weight and few major changes. Firstly, the LCD screen has moved to sit on top of the carrying handle. It's the best screen we've seen on a camcorder in this price range, being extremely crisp and clear. It has a resolution of over 250,000 pixels and, as befits the HDV format, is widescreen. It's flexible, and has VTR controls underneath.

Sony has used the space vacated by the screen to place the tape unit, which makes changing tapes faster.

### Viewing distance

The positioning of the monitor works well apart from when you want to use the menu. The menu buttons and thumbwheel sit in their usual position on the back of the camcorder and using them with your left hand while holding the handgrip with your right is uncomfortable on the wrists – and using them while the camera sits on a flat surface is fiddly in the extreme. There should be a second set of menu buttons on the VTR control block, and there's certainly room for them there.

What's good about the FX1's menu controls is that there aren't very many of them. Sony's consumer department seems obsessed with getting rid of buttons and making you change settings through touchscreen displays, which is fine for novice consumers but can slow down pros. Happily, the FX1 is covered with buttons, arranged in a way that those used to the PD170 will be instantly



Above. **HDV picture-quality is extremely detailed. Due to the 1080i format, this still has been de-interlaced in Photoshop using interpolation.**

Left. **This de-interlaced still shows the difference in the level of detail captured by camcorders using HDV, 'true widescreen' DV and traditional 4:3 DV, with compensation allowed for aspect ratios.**

familiar with. The layout is intuitive for those used to other camcorders too, collecting relevant buttons together, such as the manual controls for iris, gain, shutter speed, and white balance. The blue-lit HDV and DV tags that tell you which you're shooting in are handy too. They don't do anything else, but look cool and will impress clients.

The FX1 features both zoom and focus rings, with a switch changing between rocker- and ring-driven zooming – though as the zoom ring isn't itself motorized you can't use both at once. Both rings are smooth and responsive, and there are markings on the zoom wheel – which is as it should be.

Next to the rings is an all-metal exposure knob. This allows fine control over the iris, with F-stop ratings shown on the screen or viewfinder.

Change from manual to full auto

and the FX1 behaves much better than we expected. Considering the number of pixels the camcorder is dealing with in each frame, autofocus should be slower than a sloth on Prozac, but the FX1 is comparatively spritely – though noticeably slower than a pro DV camcorder. The SteadyShot stabilization system, being optically-based, works just as well as with DV camcorders.

The level of manual control is slightly disappointing. Compared to the features of a camcorder such as the equivalently – priced Canon XL2, which features individual RGB gain controls, this is definitely a consumer model – though hopefully the forthcoming Z1 will add manual controls to match the XL2.

What really makes this a consumer unit, though, is the lack of XLR audio inputs – though again these will be on the Z1 when it arrives in a few months.

### Alternatives



**JVC Professional JY-HD10**



**JVC Professional 'HDV5000' (name tbc)**



**Sony Broadcast HVR-Z1E**



We reviewed the FX1 under two shoot conditions – one ENG set-up focusing on full-auto and quick-set up usage, and one dramatic/presentation set-up where much time was spent fine-tuning both the camera and production elements such as lighting. Footage was reviewed using Adobe Premiere Pro 1.5 with MainConcept's MPEG Pro plug-in, as well as directly by connecting the camcorder to a Dell W2600 LCD HDTV using the provided component cable.

All of the captured footage was head-turningly crisp and detailed. Some subjects may not appreciate every wrinkle and mole being made plain – but that's HD for you. 1080i footage captured in full-auto mode was better looking than you ever believed full auto could be – though the audio through the built-in mic wasn't great and the lack of SMTPE colour bars will make you wish for the Z1.

It should be noted that these comments are made in the context of our usual reviews of pro-level DV camcorders. There's a huge gap between the FX1 and even Panasonic's AJ-HDX400 DVCPRO HD camcorder.

### Fast and furious

The FX1 proved fast to use in semi-automatic/documentary situations. Given enough time to set up properly, the lack of manual controls was noticeable. We also tried out the FX1's Cinematone Gamma faux-film look, which does the trick but offers much less flexibility than that found on the XL2 or DVX100A.

Capturing the HDV footage was initially tricky, as Windows on our Dell 650 workstation initially refused to recognize the camera – and as support for camcorders is built-in there was little to do to get round it short of re-installing Windows. We had more success with another machine but using MainConcept within Premiere Pro was a bit of a pain as there's no device control, and the monitors weren't showing the correct still frames when the viewer or timeline was paused. Built-in support within Premiere Pro and Final Cut Pro HD should be with us by NAB in April, which should solve these problems.

The FX1 is a much better start to HDV camcorders than the HD10, but pros will probably want to wait for the full-spec Z1 or JVC's forthcoming, shoulder-mounted HDV version of its DV5000.

**Neil Bennett**

# Edius Pro 3

## Video editing software

**format** Windows XP

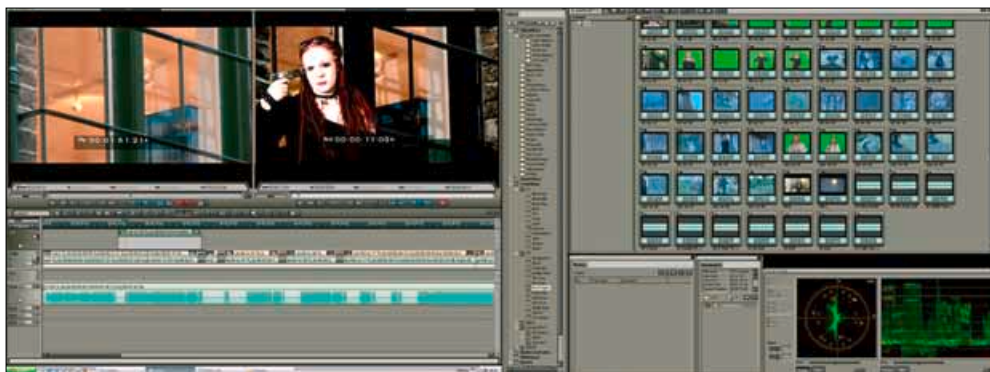
**price** £315 plus VAT, upgrade from version 2.x £67 plus VAT, upgrade from version 1/LE £139 plus VAT, Codec Option Pack £529 plus VAT

**company** Canopus, [www.canopus-uk.com](http://www.canopus-uk.com)

**contact** Canopus, 0118 921 0150

**minimum specs** Pentium 4 3.0GHz, 1GB RAM, 800MB free hard disk space, DirectX 9.0, fast hard disk system

**Digit Rating** ★★★★★



Edius has been an also-ran in the NLE market but Canopus hopes, with the emergence of HDV, the company's expertise with codecs will give the software a boost. Pinnacle's Edition was the first tool to include native HDV support, but Canopus hopes that its HQ codec will allow the editing of HDV without a huge performance hit compared to DV. It's also the first company to offer hardware acceleration for HDV with the DVStorm-like Edius NX for HDV.

Edius Pro 3 is the third version of Edius, with the Pro bit added because every NLE currently has to have Pro in its name somewhere. However, it is genuinely more 'pro' than before.

Performance while editing 1080i HDV from the Sony FX1 (reviewed left) was impressive considering what you're dealing with, but very sluggish compared to DV editing. The basic requirements for HDV editing – dual Xeon 2.8GHz processors – are very high too; hence we're looking forward to the Edius NX acceleration board.

We couldn't get Edius Pro 3 to capture from the FX1 conventionally – instead we had to use a separate

MPEG utility that didn't offer device control. Once within Edius, HDV worked much better than using the MainConcept plug-in within Premiere Pro, though Edius wasn't happy about working with HDV from other sources.

### Dark on the outside

The interface looks quite different from version 2.5 – but it's actually just been darkened. It's a good look that makes video stand out, but the otherwise flexible interface still suffers from requiring two screens to be usable, and that the palettes don't snap together when resized.

Edius has always been an innovative tool, and version 3 adds the Layout tool, which makes cropping and resizing different formats with different aspect ratio for compositing together much easier. The new Watch Folder utility keeps your bins up-to-date with folder contents. The ability to capture directly from DVD discs (not copyrighted ones though) could be a huge timesaver in an emergency.

There are a large number of more minor enhancements, ranging from

still image sequence and QT support to audio channel mapping.

Edius Pro 3 is let down by its effects toolset, though. Its colour correction tools are weak next to those found in Final Cut or Premiere, especially if you're in a hurry – automated tools are non-existent. The new white/black balance effect is, on its own, a well-designed tool, though, and the addition of a split-screen preview is welcome.

Edius' keying tools could do with better first-hit success – and the titling tools are very basic. It's a shame, as Edius is a very efficient tool that could shine in high-velocity environments such as news production. It's something that could be corrected quickly by adding support for After Effects plug-ins and shipping a few judiciously-chosen tools with the product. The lack of undo within Edius' own tools also still needs correcting.

Edius is gaining on its competition with every release but cutting edge innovation doesn't excuse weak effects tools.

**Neil Bennett**



# MojoWorld 3.0

## Landscape-generation software

**format** Mac OS 9/X, Windows 98/2000/XP

**price** Standard \$199 (around £106), upgrade \$149 (around £80),

Pro \$479 (around £256), upgrade \$299 (around £160)

**company** Pandromeda, [www.pandromeda.com](http://www.pandromeda.com)

**contact** Pandromeda, 001 304 788 7818

**minimum specs** Power PC G4/Pentium III 1GHz processor, 256MB RAM, Open GL-compatible graphics card, 350 free hard disk space

**pros** *Powerful fractal scene generator that generates whole planets with local overrides. Pro version adds vegetation and animated textures.*

**cons** *Unusual user interface takes a lot of learning, though plenty of presets – including whole worlds – are supplied to get you started.*

**Digit Rating** ★★★★★

**M**ojoWorld is a 3D virtual scenery generator with a twist. It was invented by Dr F Kenton Musgrave, one of the original pioneers of fractal landscapes. It's like a beefed up Bryce, but instead of Bryce's infinite flat planes, MojoWorld creates whole spherical planets at a time, that you can zoom into and explore at any scale to find scenes that can be rendered or animated. The spherical nature of the planets allows for more realism in terms of horizons and skies. For closer control of small parts of your scene, you can create localized 'parameter bombs' with different settings or imported objects.

We reviewed MojoWorld 2.0 a couple of years ago and concluded that once you've got to grips with the odd user interface it could produce stunning results. Anyone with MojoWorld 2.0 will leap straight into the new version, but newcomers will still find it impenetrable without a lot of manual and tutorial study. The problem is the wealth of options – leaving out a single step gives you something completely baffling.

However, planet/scene navigation is vastly improved with a rather Bryce-like 'JogNav' on-screen trackball and arrow navigation menu.

Greyscale height maps can now be exported, and new ones can be imported from sources such as Bryce, or DIY efforts in Photoshop. New SmartGuides provide superimposed lines on the scene that you can use to align objects to each other and to the scene.

There are now two versions of MojoWorld 3.0 – Standard and Pro. The Standard Edition offers the full range of planet generation tools, parameter bombs and new navigation menus. Professional adds three useful plug-ins: MojoTree (for generating single plants of world-spanning forests); MojoMove (animated textures for oceans, skies, and clouds, with a library of pre-sets); and MojoGraph (a sophisticated shader). If you have the Standard edition you can purchase MojoTree for about £40 and MojoMove for about £55, but MojoGraph is only available with Professional.

MojoWorld 3.0 can now create

### Alternatives



**Daz Productions  
Bryce 5**

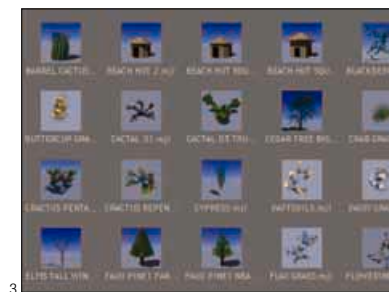
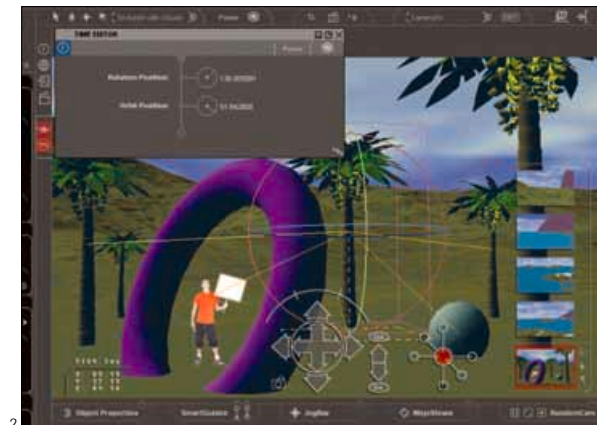


**E-on Software  
Vue 5 Esprit**



**3D Nature World  
Construction Set 6**





- 1 Once you get the hang of MojoWorld 3.0, the quality of output is very high.
- 2 PhotoBillboards allow you to insert 2D cutouts into your 3D scene.
- 3 The new MojoTree feature offers this intriguing Tree Library.

realistic river terrains (actually parameter bombs) that cut into hills, branch, and form lakes and seas naturally. There's a new Wizard for creating whole planets.

PhotoBillboards is the name for the 2D inserter. This isn't a new idea, but it's useful – it lets you place flat images, such as cutout photographs, into a scene. As long as they face the camera and the shadows match, they look very natural. The most obvious applications would be photographs of people or complex machinery you don't want to create in 3D. PhotoBillboards is the basis of the new low-cost application, Focus.

### World-changing

Related to this is MojoFX, a range of 2D special effects that can be added to MojoWorld renderings. These include image frames and light effects such as weather, texture, and lens flare overlays.

MojoTree is probably the most intriguing of the new features. MojoWorld 2.0's planets were essentially lifeless as there was no way to create vegetation except as distant greenery. MojoWorld 3.0 lets you load in pre-set vegetation or create your own, and then distributes it procedurally either locally or planet-wide (within variable parameters such as altitude and slope).

Built-in variability in the tree-building instructions lets you create whole forests of trees with realistic small variations. It works through three new editors within the main Generator tool, for forests, branches, and leaves.

Branches and Leaves create the blueprint for the trees, while Forest controls how you distribute your new plants. Complex forests slow down the opening of a planet file, though this is relieved somewhat by the three-stage viewing display that lets you see the progress through basic bounding boxes, the wireframes, and then the final trees.

Pandromeda has expanded its product line with MojoWorld Focus, a £26 standalone version of MojoWorld 3.0's PhotoBillboards that lets you integrate 2D cutouts as well as 3D objects into existing 3D worlds, and then render them.

The idea is that you can place your own images into ready-made 3D worlds. Focus includes the Photo Trimmer cutout tool, and, as an introductory offer, it bundles a copy of PhotoArtist Express.

Perhaps more useful is MojoWorld 3.0 Viewer, a free download for Mac OS 9/X or Windows that lets anyone navigate, render and animate existing world files that have been created by

somebody else. Pandromeda is working with CuriousLabs to provide native support for static Poser 3D figure files and Shade 3D object files in a future version of MojoWorld. Support of fully animated Poser content is also planned.

In the meantime, MojoWorld 3.0 is a worthwhile advance on its predecessor. It can produce landscapes, skiescapes, or whole planets of amazing detail and realism, but it takes dedication and a lot of concentration to get the best from it.

**Simon Eccles**



# FinePix F810

# FinePix E550

# FinePix S5500

## Digital cameras

format Mac/Windows

price S5500 £238 plus VAT, E550 £281 plus VAT, F810 £298 plus VAT

company Fuji, [www.fujifilm.co.uk](http://www.fujifilm.co.uk)

contact Fuji, 020 7568 1477

minimum specs Power Mac/Pentium, 256MB RAM, 335MB hard drive

Digit Rating S5500 ★★★★★ E550 ★★★★★ F810 ★★★★★

### Specifications

**S5500** 4.0mp, max output size 2,272-x-1,704, 10 x zoom, 37-370mm 35mm equivalence, max aperture f/2.8, shutter speeds 15-1/2000 sec, ISO sensitivity 64-320, 16mb xD Picture Card provided, 1.5-inch screen, flash

**E550** 6.3mp, max output size 4,048-x-3,040, 4 x zoom, 32.5-130mm 35mm lens equivalence, max aperture f/2.8, shutter speeds 3-1/2000 seconds, ISO sensitivity 80-800, 16mb xD-Picture Card provided, 2-inch, flash

**F810** 7.3mp, max output size 4,048-x-3,040, 4 x zoom, 32.5-142mm 35mm lens equivalence, max aperture f/2.8, shutter speeds 3-1/2000 seconds, ISO sensitivity 80-800, 16mb xD-Picture Card provided, 2.1-inch monitor, flash



1 & 2. The 37-370mm zoom lens on the S5500 is powerful, while the maximum aperture of f/3.1 allows higher shutter speeds than most compacts with shorter range zooms. At least 1/400 shutter speed is needed at maximum zoom to reduce blur.



top FinePix S5500  
left FinePix 810  
below left FinePix E550

There are few camera manufacturers as prolific as Fuji. Of the three reviewed here, only one is a brand new model, while the other two are second and third generation models. The F810 is the replacement to the identical looking F710, which may still be in the shops. It has one major difference though – the new model's sensor has double the resolution of the previous CCD.

As sensors go, Fuji's Super CCD HR is significant for having a pair of pixels at each photo-site. Output is combined from the two, which have different sensitivity. This gives greater tonal range over conventional types. It's good to see that both the F810 and the E550 use the same six megapixel chip and 32.5-130mm 4x optical zoom.

Fuji's pixel pairing has led to some confusion over the actual number of pixels used in image capture, especially as the company offered interpolated

resolutions at twice the number of effective pixels. Fuji has retained a 12mp output option for both the F810 and the E550. However, the option is not included on the SLR-style S5500.

### Pixel power

Changes over the previous S5000 include an extra million pixels, bringing the total up to a four megapixel resolution. Fuji has added a 640-x-480 pixel movie clip option at a flicker-free 30fps (also seen on the other two models), a simple-to-use custom white-balance feature, as well as 100 per cent frame coverage. Precise framing is especially useful considering the 10x zoom range from the equivalent 37-370mm powered zoom. A detailed electronic viewfinder adds to the SLR feel. At 1.5-inches, the screen on the back feels cramped, especially when compared to the 2-inch screens of the F810 and E550.

The F810 continues the trend started with its predecessor of having

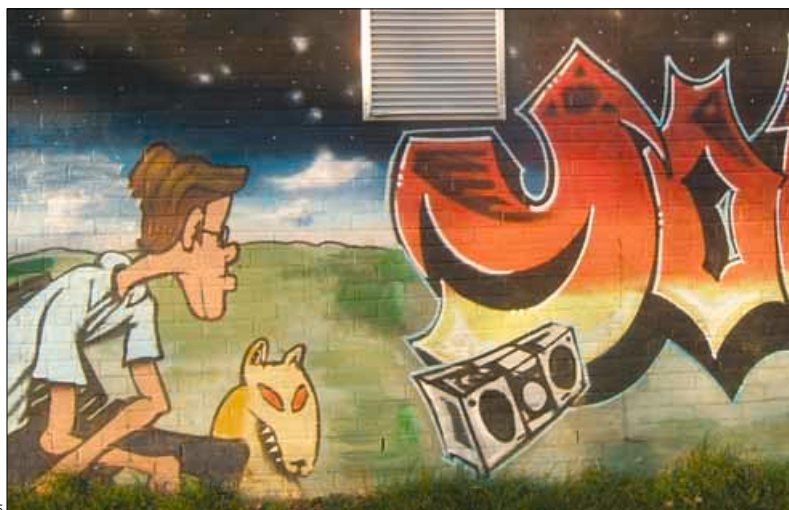




3



4



5



6

a widescreen (16:9 format) TFT instead of the usual 4:3 layout. This adds a level of complexity to the choice of image sizes, but it looks good.

Powering up and shutdown are lightning-fast for the 6mp models, but the S5500 is slower thanks to its big zoom. This is understandable considering the power of the lens – even at a distance-shrinking 370mm, the maximum aperture is f/3.1, allowing higher shutter speeds than most compacts with shorter range zooms. Even so, blur from camera shake is a concern at such magnifications (as it is with its competitors). At least a 1/400 sec shutter speed is required.

Fortunately, the S5500 has the semi-auto shutter-priority mode in addition to all the usual program, auto, and scene-based exposure modes, as do both the other models. There's a metered manual and aperture-priority option for the purists.

All three cameras handle well and

share Fuji's usual control layout and menus, though the F810's thumbwheel for hastily changing exposure settings is a gift. The main menu sets most image control settings. However, there is a secondary menu for quality settings, as well as the all-important manual ISO options. It is messy and unintuitive at first, but isn't a major problem.

#### Powering up

However, it's strange that an uncompressed RAW format option is buried in the set-up section of the first menu. File sizes are large if you use this option – 13MB for the two chrome bodied cameras and around 8MB for the S5500. You'll need the RAW file converter supplied with the FinePix Viewer software, unless you've kept up to date with Photoshop.

Not surprisingly, AF performance is identical between the F810 and E550, and there is a wide range of focusing options, such as continuous and single

shot. All three models have a wide area AF option covering the central two-thirds of the frame. It's similar to Canon's 9-point AiAF system, only faster. Both the S5500 and F810 have the added advantage of an AF assist lamp for low-light, low-contrast subjects.

Each camera has a small built-in flash that stays hidden until it's required. Full-flash, fill-flash and red-eye reduction are all included and work well. Image quality is up there with the best though there is the usual purple fringing and noise creeping in at ISO 100. Noise levels and JPEG artifacts generally were lower in the 6mp cameras. Choose RAW if you have the time and storage space.

If you don't need the extra reach afforded by the big zoom of the S5500, the E550 comes recommended, but if you're looking for a quality compact model the all-metal build and pocket-friendly size of the F810 is a decent option.

**Joanne Carter**

3. *The E550 achieves good close-up detail, thanks to its 6.3mp resolution output.*

4. *Shooting square into the sun on a winter's day – exposure on the E550.*

5. *Colour output of the F810.*

6. *The F810 offers high-quality, sharp images.*



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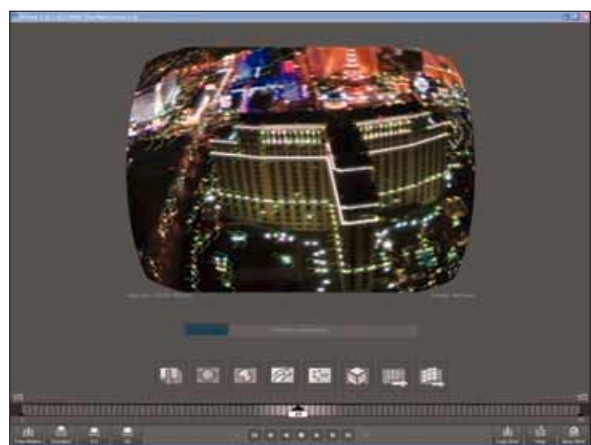
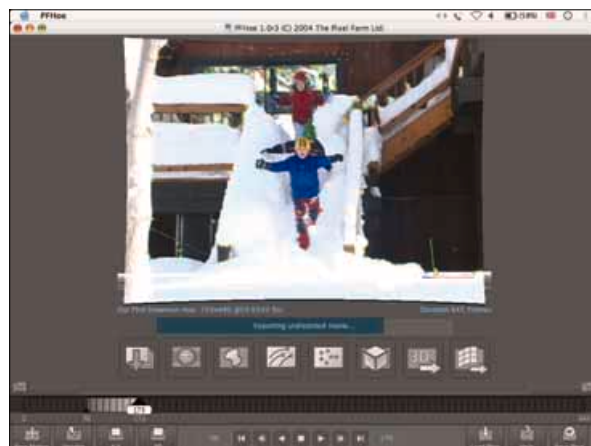
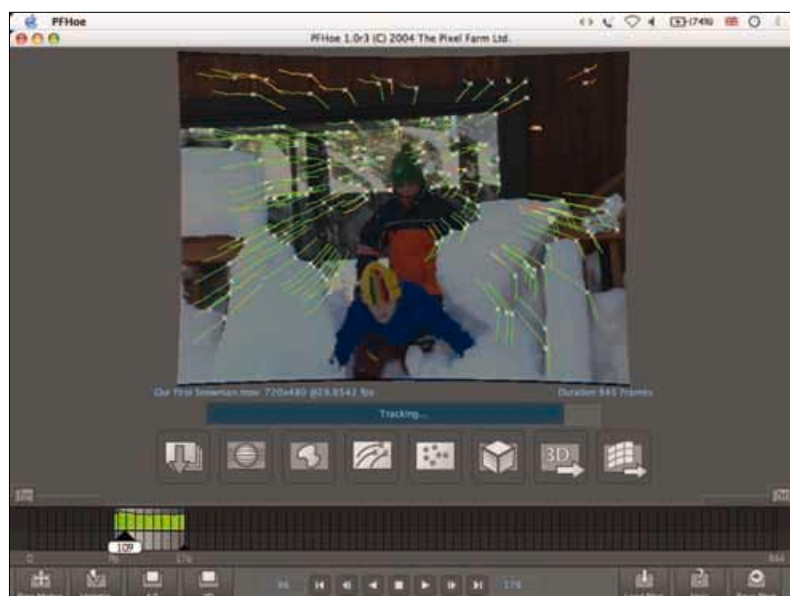
Jamie Jackson  
Art Director  
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# PFHoe 1.0

## Motion tracking software

**format** Mac OS X 10.3, Windows XP

**price** £49 plus VAT (single export format), £69 plus VAT (all export formats)

**company** The Pixel Farm, [www.thepixelfarm.co.uk](http://www.thepixelfarm.co.uk)

**contact** buy online

**pros** *Brings high-end process within reach of beginners. It's inexpensive, professional and has a user-friendly look-&-feel, and can handle free motion or nodal pan camera moves.*

**cons** *QuickTime Movie and AVI formats only. Third party application required to create mattes, and the manual is a bit sparse for new users.*

Digit Rating ★★★★★ BUY

This application creates camera-tracking data to help match 3D objects into the movement of standard definition (SD) video sequences. The price is attractive to new users, the interface is friendly, and there is a wizard for guiding you through the initial stages. This pops up when you first load some footage and helps set the correct camera parameters, such as aspect ratio, whether or not the footage zooms, and how the camera was moving when the footage was taken.

PFHoe can interpret either Free Motion camera shots (moving horizontally or vertically) such as a dolly shot or a static nodal pan shot (with rotation). The parameters can be set manually or changed using the buttons at the bottom-left of the interface. PFHoe doesn't allow you to create a matte to cover extraneous

parts of the footage, but it's possible to create one externally and import it using the Load Matte button before tracking.

Another click of a button allows you to compensate quickly for the lens distortion commonly found on consumer DV cameras, and then tracking is automatic once the Track button is pressed. Tracking markers are set in the first frame and continued until the last, but you can set in and out points for restricting tracking to part of a sequence. A graph runs concurrently so that you can view the quality of the tracking – green markers indicate a good track and red indicates poor tracking.

Calibration, where you actually build the virtual camera to be exported, throws up a grid so that you can align the ground plane and x-, y-, and z-axes in order to orient the scene correctly before export. An Orient Scene button toggles

1. Tracking markers are placed in the first frame automatically to follow the movement of the camera.
2. PFHoe allows lens calibration for correcting distorted footage shot on consumer DV camcorders.
3. Calibration turns the tracking points into points in 3D space and builds the virtual camera to be used in the 3D application.

between the various options for manipulating the grid. This is important to get right and is the only tricky part of the whole process.

You then export the tracking data to one of the supported applications – plug-ins exist for 3D suites such as Maya, 3DS Max, Softimage XSI, LightWave, and Hash Animation Master, as well as compositing applications such as Combustion and After Effects. The tracking points show up as nulls in the 3D scene along with a camera for rendering that's based on the tracked movement. You can also export the undistorted footage.

The process is fast, and the price is good considering its professional features. It's just a component in a bigger chain, but is definitely worth a look if you want to start learning how to bring your video and 3D together.

**Michael Burns**

## Alternatives



**RealViz MatchMover Pro**



**2d3 Boujou Bullet**



**Science D Visions 3D Equalizer**

# Realsoft 3D 5

3D modelling, animation, and rendering suite

format Windows NT/2000/XP

price €600 (around £415),

upgrade €150 (around £105)

company Realsoft, [www.realsoft.com](http://www.realsoft.com)

contact Realsoft, 00 358 3212 9913

minimum specs 128MB RAM, 100MB

hard drive space

**pros** Choreography enhancements, post shading system, more advanced Subdivision Surfaces, choice of user interfaces, OpenGL and hair rendering, compass menu, Public Rendering Service.

**cons** Windows only, fairly steep learning curve, and odd tool behaviour in places.

Digit Rating ★★★★★

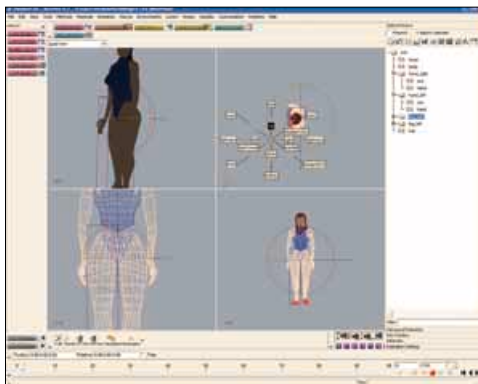
**R**ealsoft 3D doesn't look much when you open it – the Windows interface harks back to the CAD-based early days of 3D. However, there are actually a choice of environments to pick from, including some preset samples.

The GUI is very customizable and the lack of floating palettes seems to speed things up. A new network rendering system – the Public Rendering Service – has been implemented for higher speeds. This controls access to idle systems and performs crash recovery invisibly.

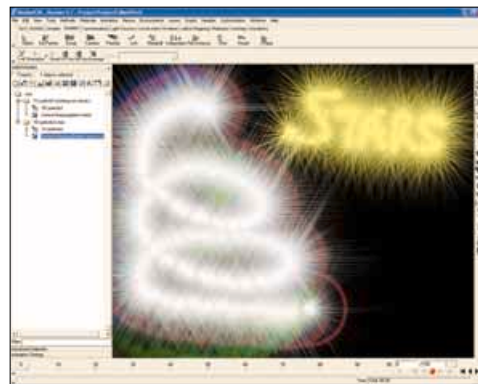
A compass menu is the first new feature you come across, accessed by dragging the right mouse button. This is a context sensitive menu that will be familiar to Maya users, giving you a much quicker and more intuitive way of activating tools.

Realsoft 3D is a hybrid modeller, combining polygons, metaballs, mathematically defined shapes, NURBS, and subdivision surfaces. The latter way of modelling presents a powerful selection of tools, including duplicate and mirror, flatten, fill holes, and unwrap.

Version 5 features a new hair renderer that can create hairs that interact with global illumination or water and provides very fine fur detail. An open-architecture, post shading system is included that allows you to quickly adjust shading components such as reflection intensity and colour, specular highlights, and shadow smoothness. It also improves



Above. The user interface is highly configurable, with additional preset and sample interfaces supplied, while a context-sensitive compass menu is available for quickly accessing tool sets.



Above. All particle types now support raytrace rendering – more memory intensive than other rendering methods but with most realistic results.

rendering quality. The UV editing toolkit now features an object hierarchy-based UV object, which lets you split model geometry into an arbitrary number of overlapping or separate surface areas. However, painting on an UV image highlights a few problems with the application – the airbrush doesn't seem to work at all, and we had to adjust the UV co-ordinates on the NURBS model in a separate UV Editor window before we could work effectively.

## Animation

On the animation front, Realsoft's choreography editor has been boosted to allow more advanced animation control. Version 5 has several choreography classes in addition to the Keyframer and the whole choreography system is now construction stack-based. You can add a separate choreograph rather than keyframing whenever you want to add a new animation to the object.

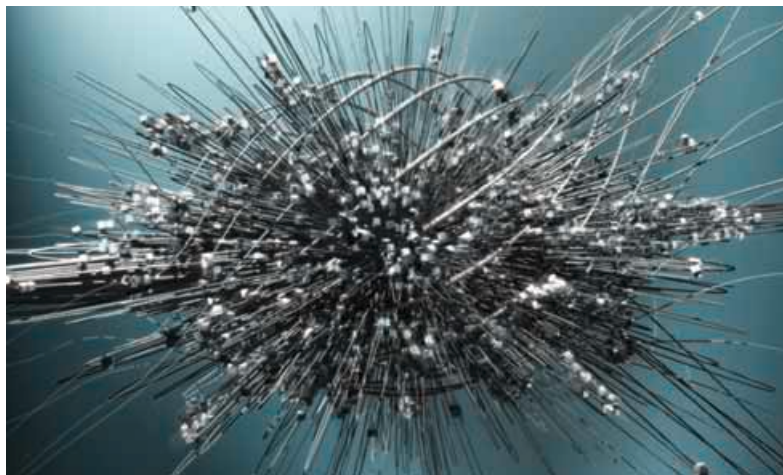
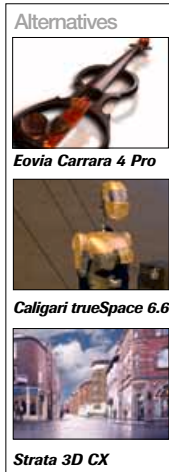
Choreographs can be assigned weights to control

how strongly they affect the object.

Attribute-based choreographs, rather than time-based animation, can be used to set up predefined physical movements so that you can animate higher parent objects and leave affected objects to move automatically according to your definitions. Physical effects can be animated using Simulation tools to control an object's motions, and there is a faster and more accurate inverse kinematics algorithm.

It will be unfamiliar territory for a lot of users, but Realsoft's features and new educational pricing policy, which allows free sub-licensing to students, will attract many wishing to get into 3D.

**Michael Burns**





# Colorproof XF

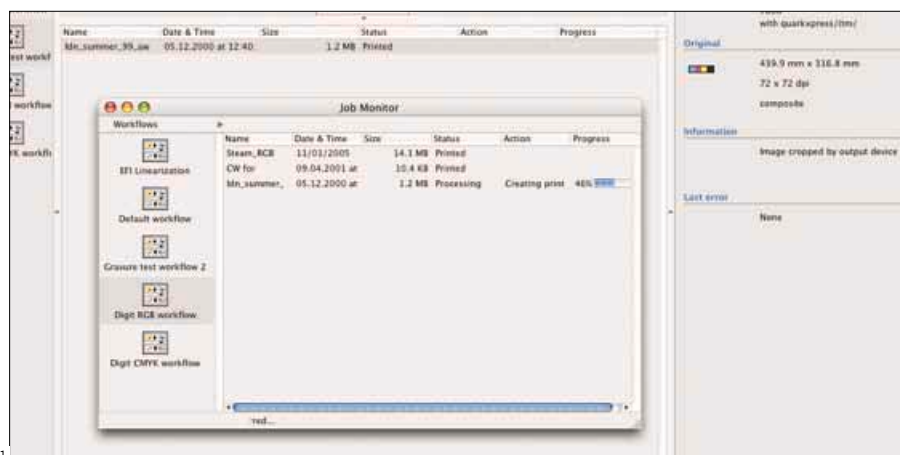
## Proofing software

**format** Mac OS X (client), Windows (client, server)  
**price** from £735 plus VAT (for two-page printers)  
**company** EFI, [www.efi.com](http://www.efi.com)  
**contact** EFI, 020 8476 476

**pros** Professional quality proofing software to drive a wide range of colour printers, with accurate simulation of international print standards or individual presses.

**cons** Needs dealer installation, Windows-only server, expensive options list, especially for profile generator.

Digit Rating ★★★★★



Colorproof XF is a professional networked proofing software for use with high-end inkjet or colour laser printers. It can very accurately predict the final printed appearance of a job before you send it to a repro or printing house. Alternatively, it accepts electronic proof files from the production site for output at your site, without waiting for bikes or post. The German proofing specialist Best, which EFI bought two years ago, developed the system.

Colorproof XF is available in three size ranges, for printers that output two pages, four pages, and eight pages. New features include an Adobe PostScript 3 Rip (replacing GhostScript) and a re-organized workflow-creation system.

It's a modular system, and can be expanded with a whole bunch of options ranging from £235 to around £2,000. Most are aimed at high-end pre-press studios.

### Needs must

The basic £735 Colorproof XF Server is all that a design studio needs. It provides the server itself (for a Windows PC, though it can be a low-cost one), plus the Client Option and Printer Option M (with drivers for a wide range of 2-page printers). There is also the Job Monitor – a simple printing utility for an unlimited number of networked Macs or PCs.

This base system accepts standard document formats such as PDF, TIFF or PostScript and applies media and target

profiles (which simulate a printing standard or process).

The dongle-protected server runs in background. The Client runs on any networked Mac or PC to define multiple workflows (processes applied to a job file), and create access privileges and printer settings as well as choosing paper and target profiles. EFI recommends its own EFI.proof papers. Workflows appear as hot folders in the Job Monitor print utility. You can print directly from the client.

To print from the Job Monitor, you simply drag the document icon onto the appropriate workflow icon and it appears in a queue. The only other control the user has is to re-order or delete files from the queue.

A range of common output profiles is supplied. Designers might also consider

the £315 spot colour conversion option. Colorproof XF's Windows Client (but not Mac) includes the basic LinTool for visual linearization of printers, which can be supplemented by the pricey ColorManager (£1,120) which can create new output profiles.

Colorproof XF needs dealer installation – if you want a simpler, less flexible proofer with a Mac server option, take a look at the slightly older EFI Designer Edition.

**Simon Eccles**

1. **The Job Monitor** is very basic, with drag-&-drop folders to fill the print queues.

2. **Colorproof XF's Client Option** is used to set up and maintain workflows and printer settings.

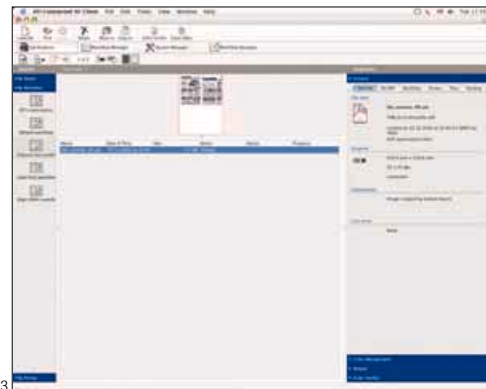
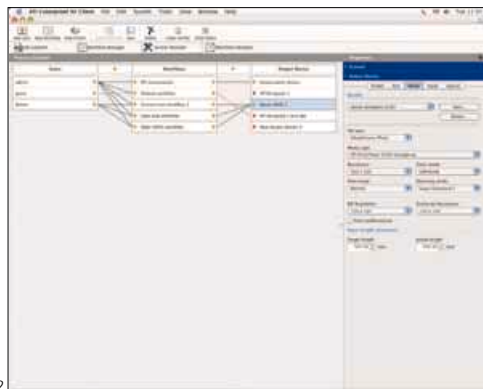
3. **The Client's Job Explorer** can print directly, with a page preview that the Job Monitor doesn't offer.

### Alternatives



EFI Designer Edition 4.0 PosterJet 6.5.5

ProofMaster Adesso



# Instant PDF 3.0

## Preflighting software

format Mac OS X, Windows  
price €199 plus VAT  
company Enfocus, [www.enfocus.com](http://www.enfocus.com)  
contact Enfocus, 0032 9269 1690

**pros** Utility for detecting and correcting expensive mistakes before submitting PDF documents. Now supports InDesign, QuarkXPress, Acrobat and OS X PDFs.

**cons** Relatively expensive, though some printers supply it free to customers. Can't create new profiles or actions. Doesn't support PDF 1.6.

Digit Rating **★★★★☆** 

1. **Instant PDF 3.0** is now a standalone application, with contextual menu labels.

2. **Quark, InDesign, Acrobat and OS X** are given direct links to the Instant PDF job queues.

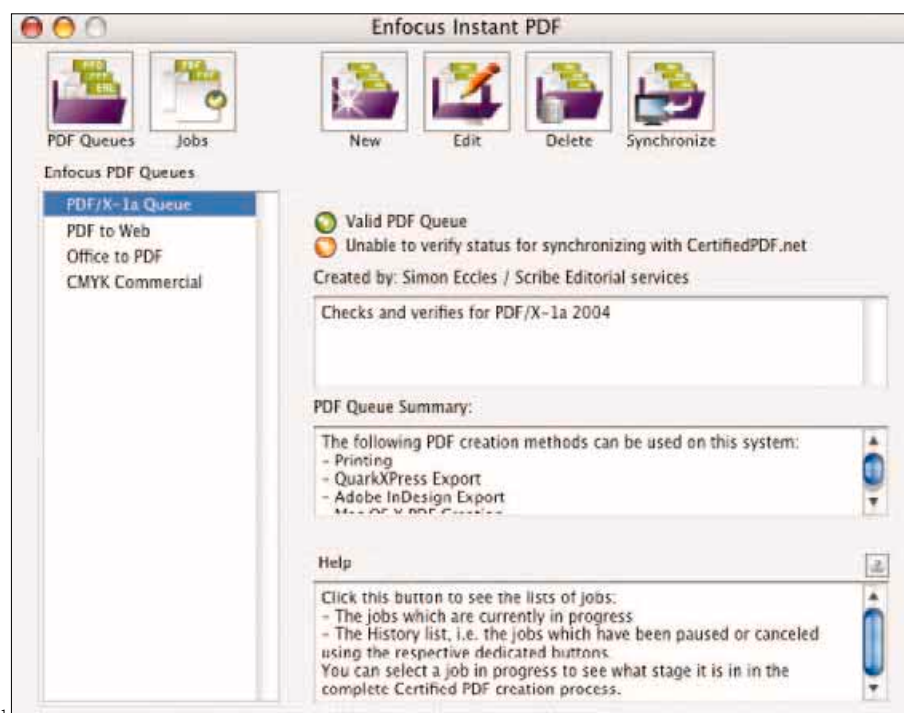
3. **The Queue creation window** lets you set up a sequence of checks and actions.

**I**nstant PDF 3.0 is intended to ensure that PDF documents will output correctly in a professional production cycle. For print, its core function is to run pre-flight checks for items that cannot be printed (such as RGB colours, too-low resolutions, JavaScripts, and multimedia clips). For the Web, it looks for non-RGB colours and too-high resolutions.

When files pass the checks, it embeds a validation certificate into the PDF so subsequent receivers know that it's good to go. The high-end Enfocus PitStop pre-flight, as well as some pre-press systems from Agfa, Creo, and Fuji, can read the certificates.

The program can validate and convert PDFs into the print-specific PDF/X subsets, which have strict rules that exclude anything unprintable. These include PDF/X-1a (2004), PDF/X-3 and the even narrower 'Ghent Workgroup' PDF/X-Plus sets.

Where the earlier versions ran as plug-ins to Adobe Acrobat, Instant PDF 3



is a standalone application. It's supplied with plug-ins for Adobe Acrobat 6, InDesign CS and QuarkXPress 6 to export Certified PDFs via Instant PDF. It adds a Certified PDF link to the PDF button on the Mac OS X print menu.

Enfocus says it will add support for the new PDF 1.6 format soon.

Instant PDF 3.0 has a new user interface based on PDF queues, which are combinations of pre-flight checking lists and 'actions' such as automatic

correction of some faults, file re-saving, viewing and optional automatic delivery of PDFs via email or FTP.

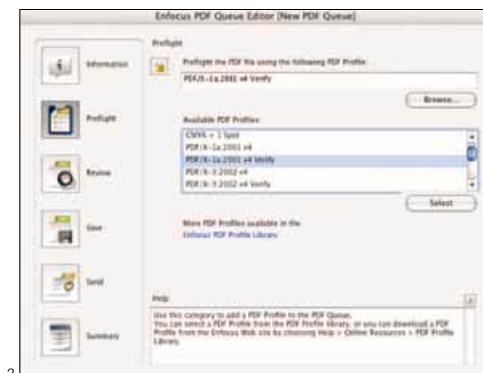
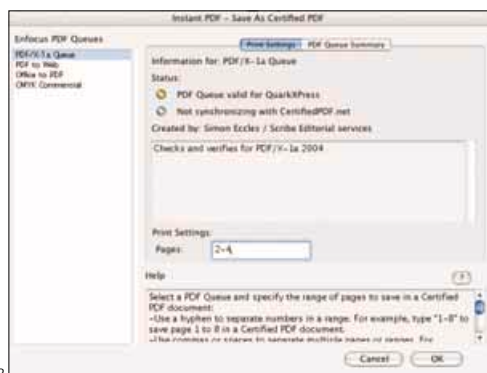
A comprehensive list of pre-flight profiles and actions is supplied so you can build your own queues, but a production house could supply new ones. Queue creation is easy, with a clear step-by-step icon workflow and live contextual explanations of every choice.

Instant PDF cannot create its own profiles and actions, but these can be created by Enfocus' main pre-flight application, PitStop Professional.

Queues, profiles, and actions can be transferred on disk or via email, or you can post them on a Web site hosted by Enfocus ([www.certifiedpdf.net](http://www.certifiedpdf.net)). Extra queues are available from this site, too.

The most common reason for job failures or rejection is incorrectly created PDFs – Acrobat Distiller and other creators are notoriously user hostile. Instant PDF 3 helps prevent potential errors at source. It's comprehensive, yet easy to use.

**Simon Eccles**





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# Another dimension

BY SIMON DANAHER

**It's a lot quicker creating 3D imagery in a 3D application than it is in a painting program. But if you're used to Photoshop, 3D software might make your head spin. Digit checked out the 3D market from the 2D designers point of view.**

**3** D modelling and rendering has become a major part of everyday design work, but there are still misunderstandings within the design community about its use. Whether you are designing for print or for the Web, incorporating 3D rendered imagery into your work offers an extra level of expression, and in many cases can save you a lot of time compared to producing similar effects in a 2D application. However, utilizing the medium of 3D effectively means you have to make the transition from your current 2D tools to those of a 3D program, and not everyone finds this transition easy. Choosing the right 3D application for you will usually be a determining factor.

You need a 3D program that doesn't limit you creatively or technically but doesn't demand that you have a totally technical mindset either. There are many 3D programs aimed towards advanced 3D effects and animation, featuring tools for photoreal rendering and physical simulation of events. However, such applications can be overkill-by-design for relatively straightforward creative work. You need a 





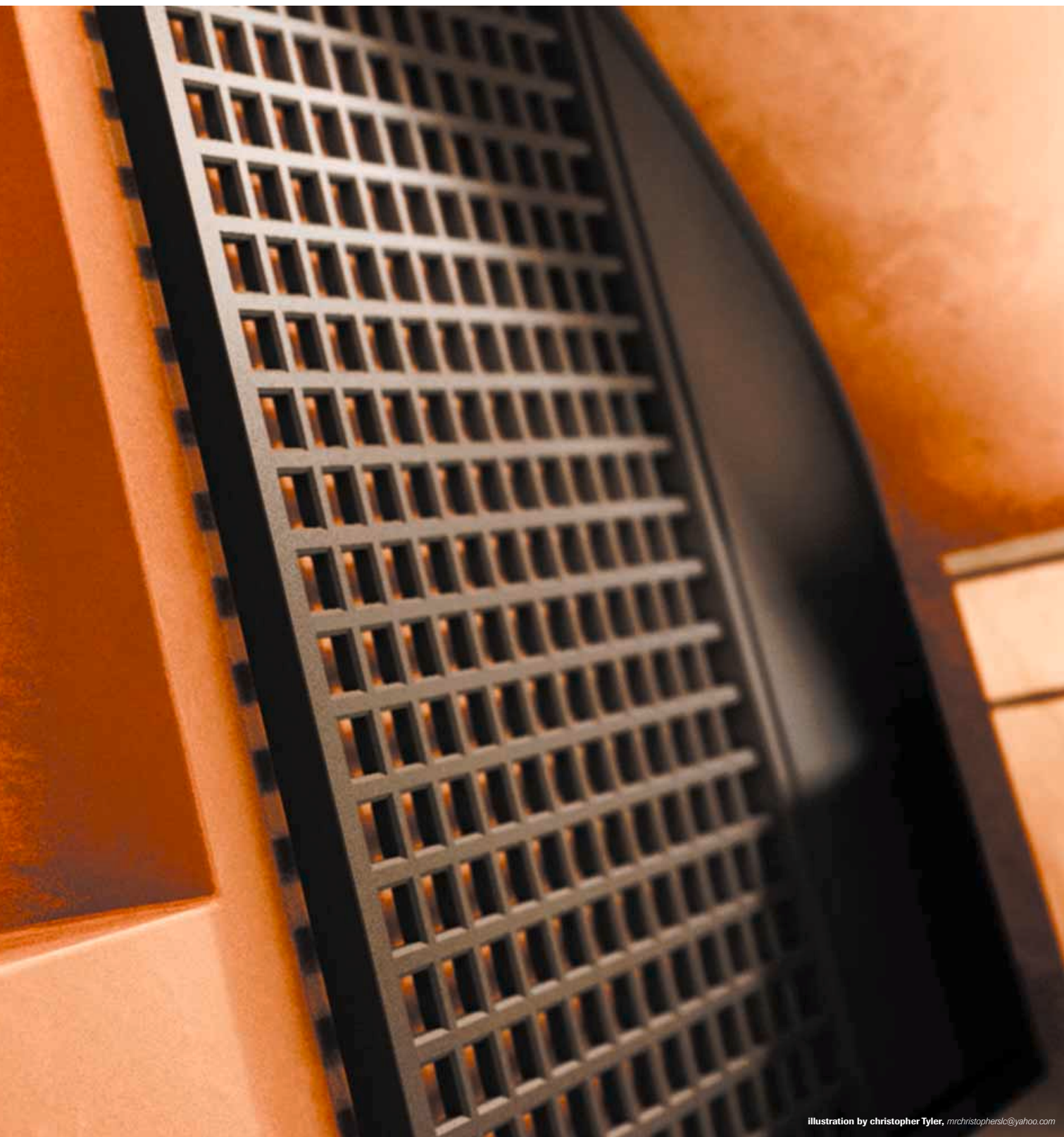


illustration by christopher Tyler, [michristopherslo@yahoo.com](mailto:michristopherslo@yahoo.com)

## Amapi Designer 7

**format** Mac OS 9/10.2/3, Windows

98/NT4/Me/2000/XP

**price** £339 plus VAT

**company** Eovia, [www.eovia.com](http://www.eovia.com)

**contact** Computers Unlimited,

[www.unlimited.com](http://www.unlimited.com), 020 8358 5858

**minimum specs** Pentium III 500MHz/Power  
Mac G4 400MHz, 128MB RAM, OpenGL-  
compatible graphics card

**digit rating** ★★☆☆☆



Despite its quirkiness, Amapi has become a well-respected and long-lived modelling program, and many 3D artists swear by it. The application offers an unconventional interface that works well once you get used to it, and it has some very nifty modelling tools. It's particularly good at creating tricky industrial forms that have lots of rounded edges, thanks to its useful rounding tools.

Amapi Designer is primarily a Polygon modeller, but it adds subdivision surface smoothing (of various types) and limited but useful NURBS tools as well. There is a higher-end version, Amapi Pro, which features a full NURBS modelling toolset.

This latest version seems to have an improved renderer, but the system is still extremely basic. Indeed, Amapi is not meant to be used as a renderer but its models are expected to be exported for use in more sophisticated 3D rendering applications (such as Carrara, also by Eovia).

The new system is fine for previews and simple rendering, but clearly other applications are much better. In fact if you buy Carrara 4 Pro you get Amapi Designer 7 for free, which really makes the standalone version a bit of a folly, since to use it in production you really need a decent renderer, such as that provided with Carrara. There's no real point of Amapi as a standalone application, because for only £80 more you can buy it bundled with Carrara's more sophisticated tools and rendering abilities.



## DESIGNERS NEED A 3D PROGRAM THAT DOESN'T LIMIT THEM CREATIVELY

tool that will cater for your design skills – the 3D program needs to have a rich toolset, but not one swamped by redundant technical features or effects.

There are two main sections to a 3D program, aside from animation: modelling and rendering. Modelling is the process of building your model and applying textures and materials to it. Rendering is the process of creating a final 2D image from the

## Blender 2.36

**format** Mac OS X 10.2/3, Windows

98/Me/2000/XP

**price** free

**company** Blender Foundation,

[www.blender3D.org](http://www.blender3D.org)

**contact** download online

**minimum specs** not given

**digit rating** ★★★★★

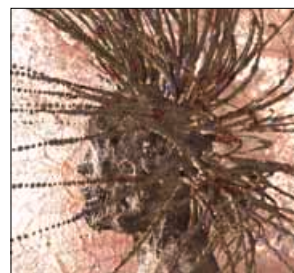
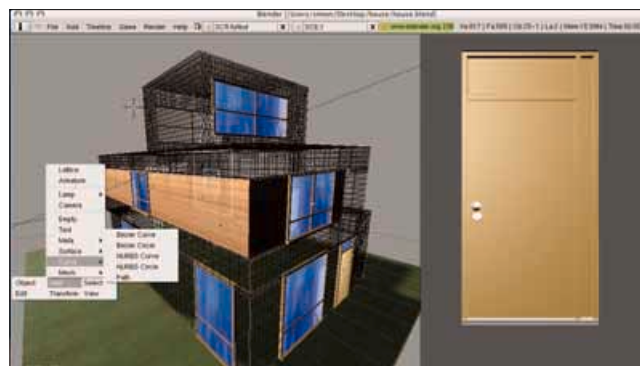


Image by Arowe, anathias. 25@nmail.com

As the only free application in this roundup, Blender is unique, but it's also a rather impressive 3D program in its own right. It may be free in money terms, but you'll have to invest a lot of time to learn it – it takes a lot longer to get to grips with it than tools such as Carrara or Strata CX. What you get for the cost of 6MB of downloading time is a quirky and powerful 3D program that is ready to take on pretty much any of your 3D design tasks. You can buy a paper manual from the Blender store, and at only €39 it's worthwhile. The program is not exactly easy to get used to but it has some novel features that make it a pleasure to use once you've settled in.

For example, the Move, Rotate and Zoom tools can be accessed through buttons, or via a pop up menu system as you'd expect, but Blender offers a gestural system for accessing these tools, too. Swiping the mouse in a straight line with the left mouse button depressed activates the Move tool, a brief arc summons up the Rotate tool, and a left-right zig zag calls the Scale tool. It's very intuitive and beats buttons and menus for efficiency and speed.

Feature-wise, Blender offers polygons, NURBS, béziers and of course subdivision surfaces. Modelling is as good as most of the other systems, though a few more polygon and NURBS tools wouldn't go amiss. Rendering is fine, with full raytracing and radiosity on offer, plus there's UV mapping and 3D painting too. Blender can be a little difficult to use to its full potential but with a little perseverance this freebie is capable of results as good as any other application on test.



3D model you've made. There is also the less defined area of environmental tools, which involves construction of the scene, lighting, and backdrop.

Modelling is arguably the most complex part of any 3D program, and often has the most misunderstood technology. A 3D object is built using model geometry, and there are three main types – polygons, NURBS, and bézier surfaces. Polygons are

the simplest type of geometry – what you see is what you get. They're great for creating mechanical objects and angular surfaces, but they're less easy to use when creating organic forms or smooth surfaces. This is simply because you need a very fine net of polygons to generate a smoothly curving surface that does not look faceted at any point. The more polygons you have in a model, the slower it is to display and model,



## CINEMA 4D IS AN AFFORDABLE WAY TO GET ON THE HIGH-END 3D LADDER – WITH A SIMPLE UPGRADE PATH

### Carrara 4 Pro

**format** Mac OS 10.1/2/3, Windows

98/NT4/Me/2000/XP

**price** £419 plus VAT

**company** Eovia, [www.eovia.com](http://www.eovia.com)

**contact** Computers Unlimited,  
[www.unlimited.com](http://www.unlimited.com), 020 8358 5858

**minimum specs** Pentium III 300MHz/Power  
Mac G3 266MHz, 128MB RAM, OpenGL-  
compatible graphics card, 300MB hard disk space

**digit rating** ★★★★★

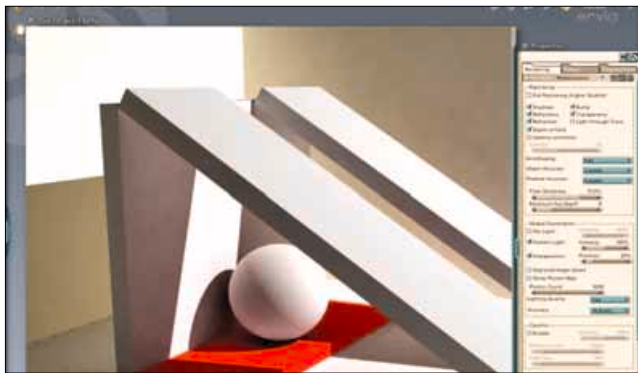


Carrara has always been a little lacklustre as a pro 3D application. It was as if the program hadn't decided whether to be a proper pro application or a toy, and wasn't much good at being either. This latest Pro incarnation seems to have undergone a personality overhaul and as a result is now a decent professional tool.

The interface is still a little too close to the likes of Bryce and Poser to have much cred in 3D circles, but if you're not worried about that kind of thing you'll discover that the methodology employed is quite simple and easy to understand. Carrara, like Poser and Bryce, uses the concept of 'rooms' to subdivide the 3D production pipeline into task-specific interfaces. The interface doesn't change that much between rooms – instead the tools and panel contents do.

Modelling is a little limited, with only bézier and Polygon tools available. There is subdivision smoothing for polygons but the range of polygon tools is small for a professional application. However, when you buy the pro version you get Amapi Designer 7 chucked in, which is a pretty decent modeller. Rendering is good with radiosity and caustics, multiprocessor support, and overall quality. A comprehensive non-photoreal rendering system is included, too. This can simulate natural media styles as well as the usual cell ink and paint.

Carrara is good for casual design tasks or more involved rendering work, but its complex material system can be confusing.



and it becomes much harder to edit all those thousands of polygons while maintaining the smoothness of the surface.

### Getting on my NURBS

NURBS and béziers are closely related in that the surfaces you create with them are defined using a net of curves. Like curves in a 2D drawing program, you only need a few control points to define a long, flowing curve so they are inherently

more efficient than polygons and easier to edit. However, rendering still has to be done by converting them into polygons, though you can usually define the polygon density to produce a surface as smooth or as coarse as you want.

Despite the awkwardness of raw polygon meshes, polygons have the benefit of being dumb. You can connect polygons together in any way you like, make holes, branches, closed or open loops,

### Cinema 4D 9

**format** Mac OS 10.3, Windows 2000/XP

**price** £424 plus VAT

**company** Maxon, [www.maxon.net](http://www.maxon.net)

**contact** Maxon, 0500 223 660

**minimum specs** Pentium 4 2GHz/Power  
Mac G4 1GHz, 1GB RAM, OpenGL-compatible  
graphics card

**digit rating** ★★★★★



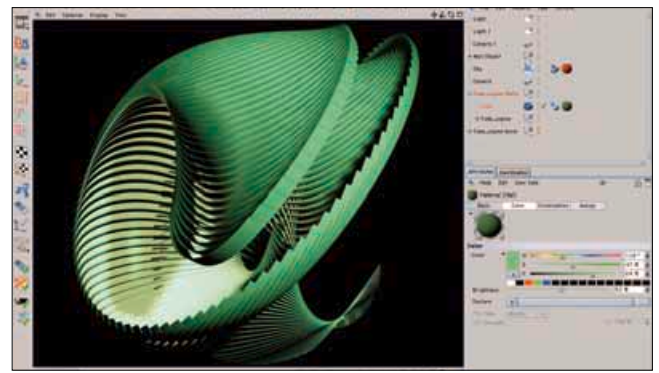
Cinema 4D is unusual in that the program reviewed here forms the core section of a more advanced suite of modules for high-end 3D production. It's a very affordable way to get on the high-end 3D ladder, and there's a simple upgrade path due to the different modules that are available.

Cinema 4D's single panel interface is well-designed and relatively friendly. It's eminently customizable, so if you want to tear off panels and menus and scatter them about you can.

Modelling is excellent. Though it's predominantly polygon-based, there are NURBS and bézier curves that can be used to create polygonal 3D objects, though much more intelligently than usual, and with a kind of in-built history. Object management is one of the great areas of the program, a simple feature that becomes key to the way the program operates. While it isn't as deep as Maya, it has an excellent polygon modelling toolset with good subdivision surface modelling.

The material system is well-devised and quite straightforward. Though there isn't interactive photoreal rendering, you can test render in any of the OpenGL views. Rendering is good too, though there is no radiosity or caustics in the core version. For that you'll need to fork out for the Advanced Render module. There is no UV editing either – that's in the BodyPaint module.

That said, the core program does just about everything a designer could want it to, and its linear learning curve makes it easy to get stuck in.



and use as many points as you like. They don't have any integral directivity or rules for the way they connect together – so they're ideal for creating objects such as trees, for example.

NURBS, on the other hand, can only be connected in a grid formation of rows and columns. The surface itself can be curved and bent in 3D space, but the surface is always a sheet with well-defined X and Y axes (called

U and V in 3D-speak). This means that you can't make branches or holes in a NURBS surface directly, and to get around this limitation NURBS toolsets tend to be a very complex set of workarounds that many artists find intimidating.

Polygon tools tend to simply be ways of generating large numbers of polygons efficiently. As a result, a subset of this geometry type – called subdivision surfaces – was generated. This takes some of the

## Maya 6 Complete

**format** Mac OS X 10.2/3, Windows 2000/XP

**price** £1,449 plus VAT

**company** Alias, [www.alias.com](http://www.alias.com)

**contact** Alias, 01494 441 273

**minimum specs** Pentium II/Power Mac G4, 512MB RAM, OpenGL-compatible graphics card, 450MB of hard disk space

**digit rating** ★★★★★

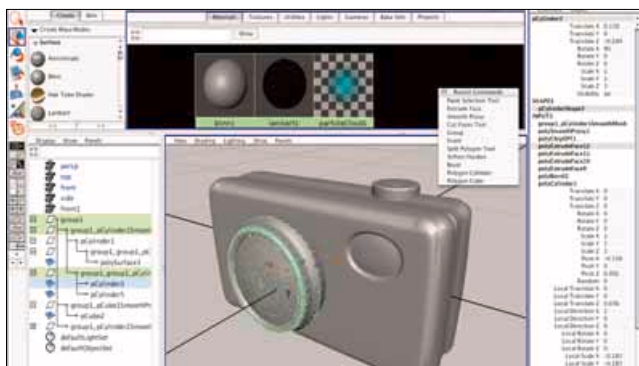


Alias' Maya 6 Complete is not an obvious choice for designers looking for a 3D tool to slip into their workflow. Maya was designed as a no-compromise, high-end 3D tour de force aimed at the film and broadcast markets. Since then, Alias has attempted to bolt on features aimed at the design and Web markets with dubious success.

Maya offers NURBS, Polygons and subdivision surfaces modelling, all of which are excellently implemented. The polygon tools are difficult to get used to at first but offer a flexible, hands-on toolset. Though offering many features for character modelling and rigging (setting up for animation) Maya's modelling is good for just about any other kind of discipline too.

Modelling history in Maya is one of the core features that set the application apart from mid-range applications. Almost every task you perform as you model is stored as a series of steps in a History list. Each entry can be selected, disabled and modified making experimentation very easy and start-all-over-again mistakes virtually a thing of the past. However, its power can be its undoing, since changing a history step on which a subsequent step depends can result in disaster.

Maya is as complete a 3D tool as you can get, but there's no getting away from its high-end heritage. The program is about as far from most designer's Adobe comfort-zone as you could imagine. However, if your requirement for output quality is such that you have time for Maya's very technical workflow, Alias' application is a good, though costly choice.



## MOST 3D APPLICATIONS ARE CAPABLE OF GENERATING HIGH-QUALITY IMAGES

properties of NURBS and applies it to polygons. Subdivision surfaces combine the topological independence of polygons with the natural smoothness and efficiency of NURBS, offering the best of both worlds.

Rendering technology has come a long way since the early days, and now most 3D applications are capable of generating high-quality images with all the latest bells and

## Shade 7 designer LE

**format** Mac OS X 10.2/3, Windows 2000/XP

**price** £60 plus VAT

**company** Curious Labs, [www.curiouslabs.com](http://www.curiouslabs.com)

**contact** Computers Unlimited,

[www.unlimited.com](http://www.unlimited.com), 020 8358 5858

**minimum specs** Pentium III 700MHz/Power Mac G4, 512MB RAM, GeForce or Radeon graphics card, 5GB hard disk space.

**digit rating** ★★★★★

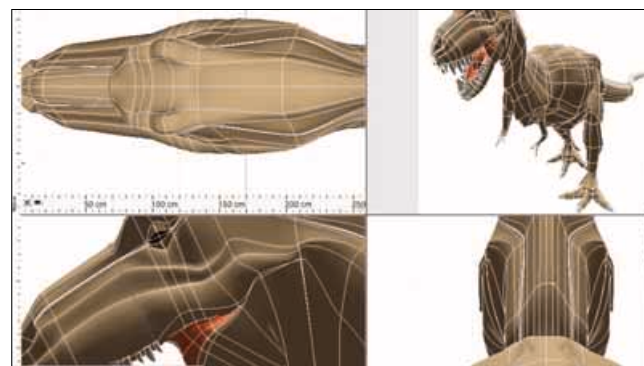


Shade 7 Standard is a relative newcomer to the 3D market in this country. It's a native of Japan where it's had great success, but has recently been taken under the wing of CuriousLabs, the company that produces Poser. Shade and Poser are odd bedfellows in the company's roster, though there aren't really many other 3D applications that would sit comfortably alongside Shade.

Shade is the only full-on bézier modeller in this round-up, and though it does offer polygons as well, béziers are the main modelling format in the program. Many 2D designers may initially find Shade's modelling methodology quite familiar, but in the long-run the program suffers from a confusing and palette-ridden interface. There are also limitations and complexities that are symptoms of a heavy reliance on bézier modelling.

Nevertheless, Shade is reasonably-priced, and has a good set of features that includes an excellent raytrace renderer that adds radiosity and caustics too. A quick look at the gallery on CuriousLab's Web site shows that image quality is consistently high, though there are some models that display obvious surface continuity problems. This is often a problem with surfaces created using bézier modelling.

For clear-cut illustrations and technical rendering, Shade does offer a lot of promise. However, the interface is far from friendly and there are plenty of alternatives that are easier to use.



whistles such as radiosity/global illumination – the ability to simulate light bouncing between objects. For design work, you'll want a decent set of non-photorealistic rendering tools, such as the ability to render antialiased wireframes, and ink and paint style 2D cell shading. Another handy feature are render passes. This is where the different material aspects of a scene are rendered as separate images or as layers in a Photoshop document. This allows

you to make changes without re-rendering the whole scene.

Good integration with traditional design applications is another necessity. All 3D programs allow you to render to different file formats, but it's important to be able to import common formats such as Adobe Illustrator files and Photoshop files for texture maps. As ever, application interface design and ease-of-use is crucial when deadlines loom.



## STRATA IS A COMFORTABLE, FAMILIAR SYSTEM THAT WILL MAKE MOST DESIGNERS FEEL RIGHT AT HOME

### Strata 3D CX

**format** Mac OS 10.2/3, Windows 2000/XP

**price** £339 plus VAT

**company** Strata, [www.strata.com](http://www.strata.com)

**contact** Grey Matter, [www.greymatter.com](http://www.greymatter.com), 08703 665577

**minimum specs** 256MBB RAM, OpenGL-compatible graphics card, 335MB free hard disk space

**digit rating** ★★★★★ 



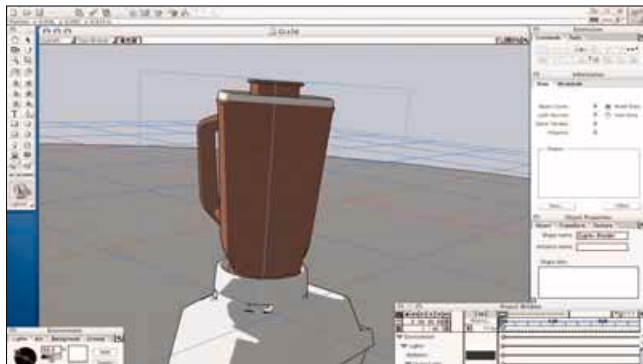
Strata is a 3D program with a long history. It has a deceptively simple look, but Strata has most of the tools you need, and few that you don't.

Strata 3D CX's interface is another from the old-school, boasting a barrage of floating palettes and windows, but despite this it fares quite well in terms of workflow. Modelling is good, and this latest version adds subdivision surface modelling, which is a great improvement over its bézier surfaces and rough polygon-editing tools. There's no point or edge weighting, but it's still useful. Strata follows interface conventions that the average Adobe user will already know, which is great for the designer.

Rendering has always been a strong point for Strata, and CX continues this tradition by adding HDRI support. Strata's radiosity and raytracing are great anyway, and the built in light attenuation and clipping system are a big benefit for print designers who demand high image quality and images with a wide dynamic range.

The weakest area is the texture mapping, which is a little dated and fiddly, and there's no UV editing or 3D painting, though these features are not essential for most design work. The Material system is good though, and the renderer handles bump maps well.

All in all, Strata is a comfortable, familiar system that will make most designers feel right at home. There's support for layered Photoshop files as texture maps, which further enhance workflow. Of all the applications on test, it's the one that is most focused on the design market.



### trueSpace 6.6


**format** Windows 95/98/Me/NT4/2000/XP

**price** \$595 (around £315)

**company** Caligari, [www.caligari.com](http://www.caligari.com)

**contact** Caligari, 001 650 390 9600

**minimum specs** Pentium 4, 128MB RAM, 50MB free hard disk space, Direct3D- or OpenGL-compatible graphics card

**digit rating** ★★★★★ 



TrueSpace 6.6 is the only application on test not available for Mac OS X, which limits its appeal slightly. It's another unconventional application in a group where nonconformity seems to be the norm, but trueSpace is weirder than Blender or Shade. If you're used to Adobe-style interface conventions, then trueSpace will be a bit of a departure. Even if you're used to 3D programs, trueSpace is still an oddball application.

Characterized by its upside-down interface where the main menu bar sits at the bottom of the interface, the program offers most of its tools and controls as buttons and pop-out palettes with yet more buttons. It's yet another confusing system but the sheer quantity of candy-colours and shapes make it doubly difficult to find or remember where a given tool is.

Aside from the interface, trueSpace has all the expected tools including NURBS, Polygons and subdivision surfaces, and it's a decent modelling system. The single large 3D viewport makes modelling interesting, but the orthogonal view isn't very well designed. Moving along different axes is accomplished via a bounding box system of handles that you click on for constraining movement. It's not as simple or intuitive as the usual axis handles found in applications like Maya and Cinema 4D.

There's some good texturing technology, such as interactive photoreal rendering (like in Maya) but the interface is awful. UV editing is available, as is 3D paint. The rendering is adequate but nothing special, though radiosity is available. Overall, TrueSpace has a good feature set, but the interface is just too infuriatingly quirky.



## Alternatives

If you're still not quite ready to take the full 3D plunge there are a number of simple 3D programs still floating around.

Daz3D's Bryce 5 is the classic beginner's 3D application. Though it's mainly used for landscape rendering, it does offer 3D import for models you've bought or downloaded from the Web, and a set of 3D primitives can be built into complex custom models. It's easy to use and capable of decent

enough images – and it's reasonably priced.

CuriousLabs' Poser 5 is another option. Poser, like Bryce, is a niche application. It's designed for rendering and animating 3D figures, mostly human. It's certainly not the last word in realism, but for beginners or the undemanding it can be a real lifesaver.

Amorphium 3.0 from EI Technology Group (previously ElectricImage) is a 3D program that

takes the sculpting paradigm and runs with it. You can take blobs of geometry and mould them into all manner of organic forms. It's not ideal for mechanical 3D objects, but it can be useful all the same. Its Flash rendering is handy for Web work.

Curious Labs, [www.curiouslabs.com](http://www.curiouslabs.com)

Daz3D, [www.daz3d.com](http://www.daz3d.com)

EI Technology Group, [www.eitechnologygroup.com](http://www.eitechnologygroup.com)







1.

main picture. *Microtek ArtixScan 1201f*

1. *Epson F-3200*

2. *Konica-Minolta Dimage Scan Elite 5400*

3. *Konica-Minolta Dimage Scan Multi Pro*

4. *Microtek FilmScan 3600 Silver*

5. *Nikon Super Coolscan 5000 ED*

6. *Nikon Super Coolscan 9000 ED*



2.



3.

# film scanners

BY NEIL BENNETT

**Whether you've gone digital or not, most photographers scan film on a regular basis. Digit focuses on the best on the market.**

**W**hatever you've been told, film isn't dead. Digital cameras have cut a swathe through the consumer market, but many professionals still work with film. Some feel no need to replace trusty equipment that has stayed reliable for many years. Some are put off by digital SLRs costing on average seven times the price of their film-based equivalents. Some are just luddites, but we're assuming you're not one of those, because you're reading Digit.

Even if you've made the leap to a digital workflow already, most photographers have acquired huge archives of film over the years. You could pay a lot of money to get them all scanned for you by a company, or you could just buy a film scanner and scan what you need, when you need it.

The main challenge when buying a film scanner is that the market isn't exactly buoyant. The emergence of digital cameras and SLRs is only one reason for this. Affordable flatbed scanners that can make decent 35mm positive and negative scans have killed the film scanner's appeal to consumers and many designers. There's also reliability and power. Models a few years old offer 4,000-5,000dpi scanning and dynamic ranges over 4.0D, and don't often break down - leaving little reason to upgrade to new models.

There's little incentive for manufacturers to upgrade



4.



5.



6.





## Epson F-3200

**type** Medium format

**price** £465 plus VAT

**company** Epson, [www.epson.co.uk](http://www.epson.co.uk)

**contact** Epson, 0800 220 546

**digit rating** ★★★★★

The newest film scanner in our group test, the F-3200 is unusual. Technically it's not a film scanner in the traditional sense, as it can also scan reflective media.

This is not the most unusual part of the F-3200. For one, the unit can scan eight 35mm slides at once. Or it can scan two 120/220 transparencies. Or a single 5-x-4-inch frame (the smallest of large format sizes). It's surprising to find these features on something the size and approximate price of a Mac mini.

Offering so much for so little, you'd expect that Epson has skimmed on the features – but the F-3200 is more than adequately specced. Its 3,200dpi optical resolution is the lowest available here, but more than enough to produce A4 scans at 300dpi.

The F-3200 was the fastest at scanning four 35mm scans – and with large stacks the ability to scan eight at once would speed things up further. However, with 6-x-7cm transparencies the F-3200 was the slowest, though the ability to do two scans at once is a definite bonus.

Both our 35mm slide and 6-x-7cm scans came out looking great. However, this was an optical illusion due to severe oversaturation that warmed the pictures but distorted their true colour values. Correction was a reasonably lengthy process, though the bundled Silverfast Ai software helped. More importantly, the lack of corrective hardware meant that the F-3200's usefulness as an efficient way to scan a large archive of film is diminished, as old dirty film stays dirty.

The F-3200 has much appeal to designers who infrequently have to scan photographers' work, but not to photographers themselves.



## Konica-Minolta Dimage Scan Elite 5400

**type** 35mm

**price** £510 plus VAT

**company** Konica-Minolta, [www.minolta.co.uk](http://www.minolta.co.uk)

**contact** Konica-Minolta, 01908 200 400

**digit rating** ★★★★★

A very slim upright device, the Dimage Scan Elite 5400 is, on paper, the best 35mm scanner in our group test. However, it doesn't live up to its impressive specs and it proved to be rather difficult to use.

With an optical resolution of 5,400dpi, it's possible to blow a 35mm scan up to A2 with a minimum of hassle. However, to do this with enough clarity to be usable requires intricate fine-tuning using the manual focus knob on the front of the unit. Compared to the excellent results provided automatically by the Super Coolscan 5000 ED, it was a much longer process to get the same level of quality out of the this Dimage scanner. Both were noticeably better and more accurate than the F-3200's output and a class apart from the horrible FilmScan 3600.

The 5400's advantage over the 5000 ED is its ability to scan four 35mm slides at once – the 5000 ED can only scan individually. However, with each scanner's Digital ICE technology turned on, manually feeding the 5000 ED produced scans quicker than the 5400. We'd guess that this is partly because the 5400 has only the standard Digital ICE to the 5000 ED's more refined Digital ICE4 – and partly because the 5400's Dimage Scan software is such a pain to use. Its interface seems like it's actually trying to hinder what you want to do, and it quits if you cancel a scan, which isn't helpful.

Dimage Scan's software technologies don't match up either, with Grain Dissolver not as effective as Digital GEM, and Pixel Polish doesn't compete with Digital ROC.

The 5400 may be over £250 less than the 5000 ED, but that extra money is definitely worth it.



## Konica-Minolta Dimage Scan Multi Pro

**type** Medium Format

**price** £1,960 plus VAT

**company** Konica-Minolta, [www.minolta.co.uk](http://www.minolta.co.uk)

**contact** Konica-Minolta, 01908 200 400

**digit rating** ★★★★★

The shoebox-sized Dimage Scan Multi Pro is the medium format equivalent of the Dimage Scan Elite 5400 and while it does feature some improvements – most notably the inclusion of the cubed version of Digital ICE to the 5400's standard version – it falls down next to its rival from Nikon.

That's not to say that the Scan Multi Pro is a bad scanner. It scans 35mm film at 4,800dpi, and medium format at 3,200-x-4,800dpi, and produces the kind of high-quality shadow details you'd expect from a scanner with a top-notch dynamic range of 4.8. It scans medium format film up to 6-x-9cm and ships with a 35mm filmstrip holder, a four-slot 35mm slide holder and a Universal Holder that uses flimsy clip-on masks for 6-x-4.5, 6-x-6, 6-x-7, 6-x-8 and 6-x-9. Unlike the Super Coolscan 9000 ED or the F-3200 though, the Scan Multi Pro can only scan a single medium format slide at a time.

The scanner is also let down by the Dimage Scan Multi Pro software. This is more powerful than the Dimage Scan software bundled with the 5400 – giving access to the Digital GEM grain removal tool and the Digital ROC technology for improving old and fading film, as well as more manual colour controls. It still suffers from poor interface design, with the Mac OS X version reeking of OS 9, and niggly annoyances such as the quitting if you cancel a scan. You lose your preview scan if you turn Digital ICE on or off, which is a pain.

The SCSI interface is redundant, but FireWire provides 35mm scans almost as fast as dedicated 35mm scanners.

their models, including adding support for useful things such as the latest versions of operating systems and modern interface standards. We had a particular problem with Microtek units not working at all on Mac OS X 10.3 until year-old updates were downloaded, as the provided CDs only contained versions of software from 2002. Owners of older film scanners will have to check for updates before installing Apple's forthcoming Mac OS X 10.4 (aka Tiger).

Connectivity is another issue. FireWire is the most common interface, though three of our seven test units offer USB 2.0. Older units offer USB 1.1 or even SCSI, which is almost unheard of outside high-end video-editing and effects systems. For this reason, we excluded Microtek's ArtixScan 4500t from our tests, as it offers only a SCSI interface.

For the uninitiated, desktop film scanners are generally available in two forms: 35mm and medium format. 35mm film scanners can capture 35mm slides and filmstrips, with the ability to scan just a single slide at a time or a holder of four or five. Some medium format film scanners can work with film up to 6-x-9cm, some with up to 5-x-4-inch – and most come with holders for around four 35mm slides.

### Film stars

In the past, the most important specification for a scanner, whether film or flatbed, was optical resolution. Now, even the scanner with the lowest optical resolution – the 3,200dpi Epson F-3200 – can produce images large enough to print bigger than A4 at 300dpi. What counts more is the quality





## Microtek ArtixScan 120tf

**type** Medium Format

**price** £1,360 plus VAT

**company** Microtek, [www.microtek.nl](http://www.microtek.nl)

**contact** Umax, [www.umax.co.uk](http://www.umax.co.uk), 0870 906 3300

**digit rating** ★★☆☆

The ArtixScan 120tf is an elderly scanner, but with no replacement in sight and lined up next to the even more Methuselah-like ArtixScans 4000tf and 4500t, it's the best film scanner Microtek has to offer. Which is like being the best football player Stevenage has to offer.

Back when 14-bit per colour (aka 42-bit) capture was better than the competition's 12-bit (aka 36-bit), the 120tf was a more-than-decent scanner. Now it's been overtaken by the 16-bit per colour (aka 48-bit) offered by every contender. Only the FilmScan 3600 offers less.

Those two extra bits provide four times the level of information for each of the three colours (red, green, and blue) stored for each pixel. So, scans from the ArtixScan 120tf are a lot less colour accurate than those from its competition – which is confirmed by our tests.

Output scans are also let down by Microtek's proprietary version of Digital ICE3, which includes dust and scratch removal technology, plus the GANE noise and grain removal system. The combination of tools is nowhere near as effective as Kodak's system.

The ArtixScan 120tf gains points for its price and software bundle. At £1,360, the unit is £600 less than Konica-Minolta's Dimage Scan Multi Pro and almost £800 less than Nikon's Super Coolscan 9000 ED. However, it's almost £900 more than Epson's F-3200, which produces scans almost as good.

The inclusion of Silverfast Ai 6 is a bonus. However, the ArtixScan 120tf wasn't compatible with Mac OS X 10.3 out of the box, and using updated, tricky-to-download software proved to be so problematic that we reviewed the unit on a Windows XP PC.



## Microtek FilmScan 3600 Silver

**type** 35mm

**price** £297 plus VAT

**company** Microtek, [www.microtek.nl](http://www.microtek.nl)

**contact** Umax, [www.umax.co.uk](http://www.umax.co.uk), 0870 906 3300

**digit rating** ★★☆☆

The FilmScan 3600 is a prime example of why people don't buy low-cost film scanners any more. On paper its abilities might look equivalent in terms of price and performance, but for the same amount of money you could purchase Epson's Perfection 4990 Photo – which offers better output quality, multiple 35mm slides at once, and, as it's a flatbed scanner, full A4 reflective scans.

With 12-bit per colour capture, the FilmScan 3600 captures 16-times less information per red, green or blue component of each pixel than 16-bit capture – and it shows. Even with a low dynamic range rating of 3.6, it's quite surprising just how muted and dull images captured on the FilmScan 3600 are. Even the histogram function in Photoshop shows just how large the gaps are at the beginning and end of the luminance scale.

For a scanner with a single feed for 35mm slides, the FilmScan 3600 was fast to use – though this is hardly surprising as it's not exactly doing very much. Even with the GANE correction software turned on, the 3600 was swift, though again that technology isn't straining itself. The inclusion of Silverfast Ai on a £300 scanner is a bonus, but overall Microtek doesn't win any prizes.

Out of the box, the FilmScan 3600 will not work with Mac OS X 10.3. Microtek wants to charge you €2.99 (around £2.10) for the privilege of downloading the necessary drivers, which is frankly outrageous. Microtek's support Web site offers an alternative free download area, as if it's aware that it's taking the proverbial – but this doesn't include drivers for the FilmScan range. We tested the FilmScan 3600 on a Windows XP PC.



## Nikon Super Coolscan 5000 ED

**type** 35mm

**price** £765 plus VAT

**company** Nikon, [www.nikon.co.uk](http://www.nikon.co.uk)

**contact** Nikon, 0800 230 220

**digit rating** ★★★★★

This is a bit more like it. The Super Coolscan 5000 ED is the most expensive 35mm scanner we've looked at, and it doesn't even scan more than one slide at a time unless you buy the optional slide feeder. However, if you want top-quality scans, this is what you're going to have to pay to get them.

The 5000 ED is a small silver box the size of an external hard drive, and doesn't look out of place next to a Power Mac G5. The single 35mm slide feeder means that scanning slides is a slow process, taking over seven minutes to scan four slides without using correction and over ten with correction. Equally annoying is that you have to sit there and manually change slides every 90 seconds or so, instead of going elsewhere to work (or make tea, or play PlayStation).

The results are worth it, though. Our scans rolled into Photoshop with the largest dynamic range of any from a 35mm scanner – and indistinguishable from the scans produced by the 5000 ED's big brother, the Super Coolscan 9000 ED, which costs £2,125. Colour accuracy was perfect too, and using the latest version of Digital ICE, free from dust and scratches.

Nikon's ScanView 4 software offers the best interface for scanning film. It's not compatible with that many scanners, nor does it offer the chance to upgrade to more powerful tools such as the HDR of Silverfast, but it's faster and more efficient to use than those provided by Epson, Microtek, and (especially) Konica-Minolta. Its only failure was that it couldn't find Photoshop CS, and required manual installation of a plug-in.

of the scanned image, especially the clarity of focus and accuracy of colour. The former is not something that can be judged from a side-of-the-box specification, but the latter often can. Most film scanners can capture images in 16-bit colour, but the most important figure is the dynamic range. This gives an indication of the level of shadow and highlight detail the scanner can obtain. A dynamic range of 4 is the standard of excellence.

However, sometimes high-quality capture isn't enough. While you can guarantee that you'll get excellent colour and detail reproduction from most modern films scanners, often your materials will let you down. Most of us are guilty of not looking after our transparencies as we should, which can lead to our hi-res scanners showing you in exceptional detail

every scratch and smear you'd rather they ignore. This is where image correction technologies come in.

Many film-scanners offer hardware-based automated correction tools. These can work on the original media in different ways, while software tools can only work with a single scanned image.

The most well known of the hardware-based correction tools is Kodak's Digital ICE, though some manufacturers have invented their own technologies to perform the same task (such as Microtek's GANE). Digital ICE removes dust and scratches from scanned images without having to resort to soften or blur parts of the images (as software solutions usually do). Instead it places an infrared light source within the scanner that shows up dust above the surface of the film and scratches below it as shadows.



## Sample output images

These images are full optical resolution scans of 35mm slides using automated cleaning and correction tools. Copies of these images can be found on the Digit CD. Slides courtesy of Dan Sullivan and Dan Peyton.

**Konica-Minolta Dimage Scan Elite 5400**



**Epson F-3200**



**Konica-Minolta Dimage Scan Multi Pro**



**Microtek ArtixScan 120tf**



**Microtek FilmScan 3600 Silver**



**Nikon Super Coolscan 5000 ED**



**Nikon Super Coolscan 9000 ED**



This is compared with the scanned image and any differences are noted. Corrections are then made based upon this.

In some scanners Digital ICE is accompanied by two or three other technologies to form what the company calls Digital ICE3 or Digital ICE4 respectively. The former includes Digital ROC and Digital GEM, which are both software processes that work on the pure RGB data from the scanner before it's given to the scanning software.

### ROC on

Digital ROC corrects faded film. The dyes used in colour film fade over time, and usually non-uniformly. Digital ROC looks at the image and uses some heavy-duty maths to work out how far off the colour is from what it should be, and then corrects it.

Digital GEM removes film grain from images. It analyzes the image to identify the grain and removes it, boosting colour clarity and sharpness. However, it does not yet have the capacity to work to the profile of particular film stocks (which would improve its accuracy by a large degree), but users can configure it to leave some grain behind for a noticeable but unobtrusive film look.

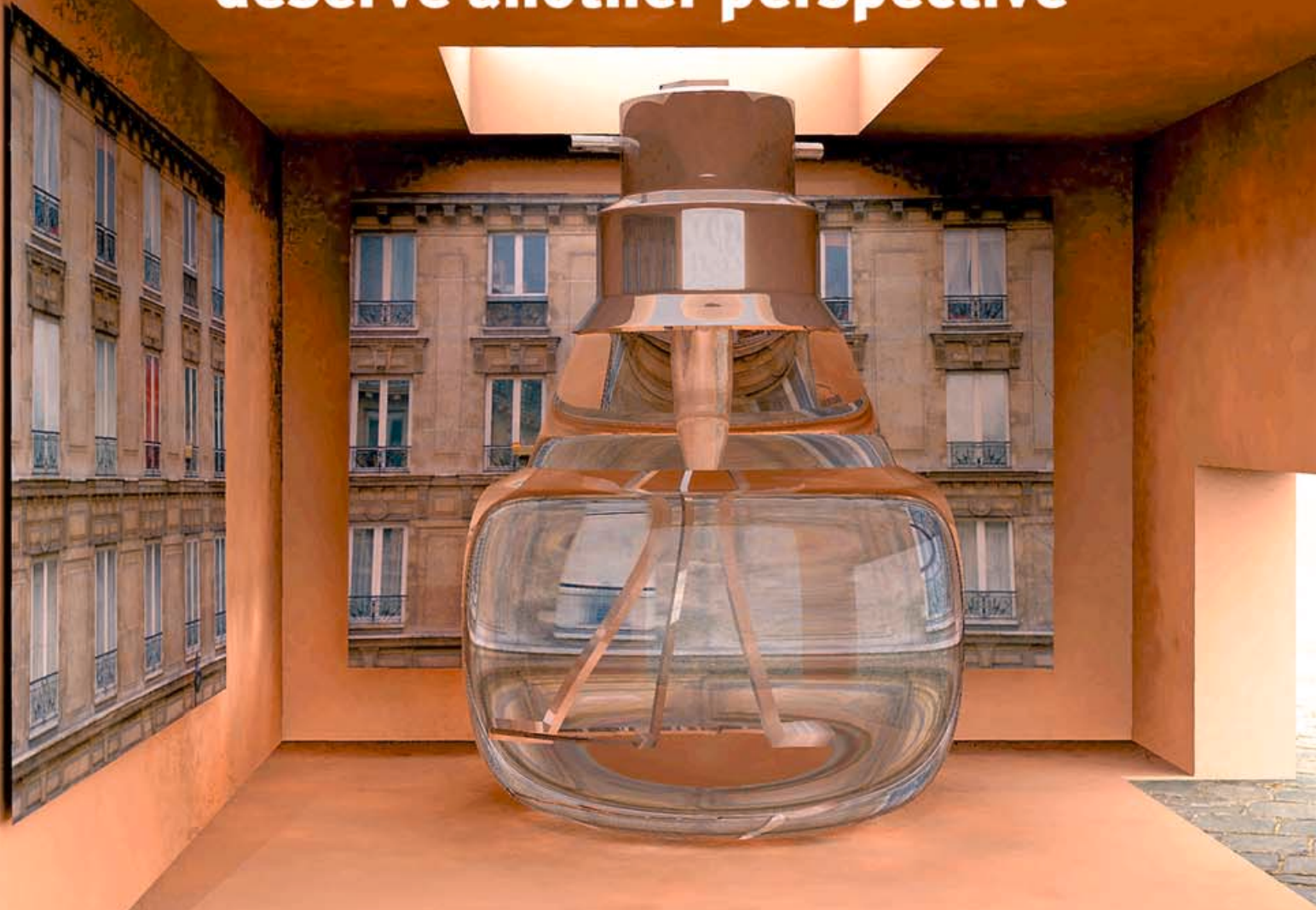
Digital ICE4 adds Digital DEE, which automatically optimizes contrast and exposure either to standard levels, or to a series of scene-based styles.

While all four technologies work extremely well, they do have the downside of pushing up the capture times substantially, often doubling the time before an image is ready for you to edit. But if you regularly work with old and dirty trannies, image correction tools such as these can be invaluable.





**Certain ideas  
deserve another perspective**



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## Nikon Super Coolscan 9000 ED

**type** Medium format

**price** £2,125 plus VAT

**company** Nikon, [www.nikon.co.uk](http://www.nikon.co.uk)

**contact** Nikon, 0800 230 220

**digit rating** ★★★★★

On its own, the Super Coolscan 9000 ED is an excellent scanner and well worthy of a Digit Best Buy rating. However, silly pricing on some of the optional extras knocks half-a-point off the score.

The 9000 ED offers the same specs as its 5000 ED little brother (4,000dpi, 4.8D dynamic range) but can scan 120/220 frames up to 6-x-9cm in size (two at a time). It can scan up to five 35mm slides at once, too. Optional adaptors add support for 16mm and medical slides, but at £399 and £105 respectively, Nikon is taking the piss.

This scanner is the fastest overall of the medium format scanners. It's only five seconds slower than the Epson F-3200 at uncorrected 35mm slide scans, and slays all-comers at corrected 35mm slides. It offers a reasonable time at single 6-x-7cm scans – beaten only by the Konica-Minolta Dimage Scan Multi Pro, which can only scan a single medium format slide at a time.

The quality of the 9000 ED's 6-x-7cm scans is excellent. The 9000 ED's 4,000dpi capture extends to medium format – most medium format scanners drop their input resolution above 35mm – allowing you to turn 6-x-7cm film into images over 11,000-pixels wide.

The rest of the 9000 ED's abilities and performance are the same as the 5000 ED – producing scans with highest dynamic range and perfect colour accuracy. The ScanView software is easy to use and offers powerful tools, and the use of Digital ICE4 – which features the new DEE auto-contrast/exposure tool – produces usable scans from extremely old and dirty film.

## products at a glance



MANUFACTURER	EPSON	KONICA-MINOLTA	KONICA-MINOLTA
MODEL	F-3200	DIMAGE SCAN ELITE 5400	DIMAGE SCAN MULTI PRO
PRICE PLUS VAT	£465	£510	£1,960
DIGIT RATING	★★★★★	★★★★★	★★★★★
FORMAT	35mm to 5-x-4-inch (plus reflectives up to 4-x-6-inch)	35mm	35mm to medium format
MAX 35MM SLIDES SCANNED AT ONCE	8	4	4
MAX RESOLUTION (OPTICAL)	3,200dpi	5,400dpi	4,800dpi
MAX RESOLUTION (INTERPOLATED)	6,400dpi	n/a	4,800dpi
INPUT BIT DEPTH PER COLOUR	16-bit	16-bit	16-bit
OUTPUT BIT DEPTH PER COLOUR	16-bit	16-bit	16-bit
DYNAMIC RANGE	3.8	4.8	4.8
ENHANCEMENT TECHNOLOGIES	none	Digital ICE	Digital ICE3
INTERFACE	FireWire/USB 2.0	FireWire/USB 2.0	FireWire/SCSI
BATCH SCANNING	yes	yes	yes
IT-8 CALIBRATION CHART	yes	no	no
DIMENSIONS (W-X-H-X-D)	210-x-250-x-94mm	65-x-165-x-360mm	168-x-128-x-377mm
PROVIDED HOLDERS	35mm slide, 35mm strip, medium format, reflective	35mm slide, 35mm strip	35mm slide, 35mm strip, medium format holder with masks for 6-x-4.5, 6-x-6, 6-x-7, 6-x-8, 6-x-9
OTHER BUNDLED SOFTWARE	Epson Scan, Lasersoft Silverfast Ai 6, Adobe Photoshop Elements 2.0	Dimage Scan, Digital ICE, Adobe Photoshop Elements 2.0, Pixel Polish, Grain Dissolver	Dimage Scan Multi Pro, Digital ICE, Pixel Polish, Grain Dissolver

## Testing procedures

All of the scanners were tested at their highest optical resolution, as Digit research shows that most photographers use this setting for the majority of scans. All tests were performed three times from start-up, after warm-up and using Silverfast within Photoshop CS rather than the manufacturer's own software, where provided. An average was then taken.

Preview is the average time taken to complete an initial (preview) scan of the 35mm slide holder. 35mm (standard) is the time taken to scan four

35mm slides in a single pass without any hardware or software cleaning tools used. With single slide scanners, slides were changed by hand.

35mm (corrected) is the time taken to scan four 35mm slides with automated hardware and software correction turned on. 6-x-7 is the time taken to scan a single 6-x-7 transparency with automated hardware and software correction turned on.

The scanners were connected to an Apple Power Mac G5 dual 2GHz with 1.5GB of RAM running Mac

OS X 10.3, with Adobe Photoshop CS available if required – except for the two Microtek scanners, which were tested using an equivalent Windows PC due to various compatibility issues.

The F-3200, Dimage Scan Elite 5400, and Super Coolscan 5000 ED were connected using USB 2.0. The Dimage Scan Multi Pro, ArtixScan 120tf, FilmScan 3600 and Super Coolscan 9000 ED were connected using FireWire.

Results are in minutes and seconds, so shorter bars are better.





## products at a glance

MICROTEK	MICROTEK	NIKON	NIKON	MANUFACTURER
ARTIXSCAN 120TF	FILMSCAN 3600 SILVER	SUPER COOLSCAN 5000 ED	SUPER COOLSCAN 9000 ED	MODEL
£1,360	£297	£765	£2,125	PRICE PLUS VAT
★★★★☆	★★★★☆	★★★★★	★★★★☆	DIGIT RATING
35mm to medium format	35mm	35mm	35mm to medium format	FORMAT
4	1	1	5	MAX 35MM SLIDES SCANNED AT ONCE
4,000dpi	3,600dpi	4,000dpi	4,000dpi	MAX RESOLUTION (OPTICAL)
n/a	n/a	n/a	n/a	MAX RESOLUTION (INTERPOLATED)
14-bit	12-bit	16-bit	16-bit	INPUT BIT DEPTH PER COLOUR
16-bit	16-bit	16-bit	16-bit	OUTPUT BIT DEPTH PER COLOUR
4.2	3.6	4.8	4.8	DYNAMIC RANGE
proprietary	proprietary	Digital ICE4	Digital ICE4	ENHANCEMENT TECHNOLOGIES
FireWire/SCSI	FireWire/USB	USB 2.0	FireWire	INTERFACE
yes	no	no	yes	BATCH SCANNING
yes	yes	no	no	IT-8 CALIBRATION CHART
504-x-274-x-142mm	238-x-103-x-177mm	96-x-172-x-315mm	249-x-498.5-x-202mm	DIMENSIONS (W-X-H-X-D)
35mm slide, 35mm strip, medium format	none	none	35mm slide, 35mm strip, medium format	PROVIDED HOLDERS
ScanWizard TX 6.5, Lasersoft SilverFast Ai 6	ScanWizard TX 6.5, Lasersoft Silverfast Ai 6, Adobe Photoshop Elements 2.0	NikonScan 4	NikonScan 4	OTHER BUNDLED SOFTWARE

## Test results

Scanner	Preview	35mm (standard)	35mm (corrected)	6-x-7
Epson F-3200	31s	2mins 58s	n/a	5mins 16s
Konica-Minolta Dimage Scan Elite 5400	19s	3mins 28s	10mins 49s	n/a
Konica-Minolta Dimage Scan Multi Pro	34s	3mins 37s	8mins 12s	2mins 55s
Microtek ArtixScan 120tf	20s	7mins 27s	8mins 14s	4mins 20s
Microtek FilmScan 3600 Silver	n/a	5mins 12s*	5mins 53s*	n/a
Nikon Super Coolscan 5000 ED	n/a	7mins 1s*	10mins 4s*	n/a
Nikon Super Coolscan 9000 ED	20s	3mins 3s	5mins 7s	3mins 51s

\* includes time taken to swap slides by hand

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Enterprise	1GB	100	20GB	£21.99
Enterprise+	1.5GB	200	30GB	£24.99

PACKAGE	SPEED	CONTENTION	PCM
Home500	512Kbps	50:1	£19.99
Home1000	1Mbps	50:1	£31.99
Office500	512Kbps	20:1	£32.99
Office1000	1Mbps	20:1	£48.99
Office2000	2Mbps	20:1	£62.99

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scanners 3d graphics cards

# software

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media web design utilities

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## DIGIT BEST BUY RECOMMENDATIONS: WORKSTATIONS

**Apple Power Mac G5 dual 2GHz**

Everything the Mac community had hoped it would be, the Power Mac G5 is fantastic with Photoshop, and could convert Windows users

**Dell Precision M60**

A sleek and businesslike notebook that is suitably kitted-out for the creative professional. Boasts the Pentium M processor (1.7GHz) and 2GB of RAM

**Sony Vaio GRT996ZP**

Huge and powerful, this Vaio has the best screen we've ever seen on a laptop. A 3.2GHz Pentium 4 chip adds speed to this desktop-replacement

**Xworks X6**

Incredibly fast processing speeds, plenty of RAM, and flexible upgrade options make the X6 a fantastic machine

## Buying advice: digital cameras

If you want a digital camera for serious design and publication work, you'll probably reach for a digital SLR first. These cameras are built for professional photography. With a digital SLR model, you're sure of high-quality output, the lenses are interchangeable, and the cameras can communicate with proper flash lighting systems. Digital SLRs are now starting to fall in price, too, so they're becoming an affordable solution to your imaging problems.

However, a few of the top 'prosumer' compact cameras offer similar capabilities, so it's worth checking out your options.

The race to pack in higher megapixel output seems never-ending – the current crop of compact models has eight million pixels. Higher resolutions can decrease output quality, because cramming more sensor cells onto small CCD sensors increases image noise. However, there are signs that suggest manufacturers realize high megapixel output only gives their products a temporary competitive advantage, and we're seeing some genuinely useful innovations too.

For instance, some manufacturers are addressing one of the biggest limitations of digital sensors – the dynamic range. This is the ability to capture detail in both bright highlights and deep shadows in the same exposure.

HP and Fujifilm have both come up with technologies that attempt to improve dynamic range. HP's Adaptive Lighting features on its Photosmart 945 model. When a photograph is taken, the camera calculates a contrast mask, and electronically balances the range of tones.

Fujifilm's method involves two photodiode sensors in each cell area of its Super CCD HR sensor. The two photodiode sensors have different light sensitivities, and the camera chooses which one to use for different areas of the image.

## Workstations

Product name	Price	Company and contact details	Platform	Reviewed	Digit rating
<b>Acumen Xtreme</b>	£1,899	Evesham, www.evesham.com, 0870 160 9700	Windows	Oct 04	<b>3.0</b>
<i>Looks like a winner on paper, but the Acumen Xtreme performs poorly. It incorporates a lot of new kit though, and packs in top accessories</i>					
<b>Aspire 2000</b>	£1,020	Acer, www.acernotebooks.co.uk, 0845 226 2235	Windows	Jun 04	<b>4.0</b>
<i>Some nice touches make this a sexy system for the mobile businessperson, but the Aspire 2000's screen is too low-res for the creative</i>					
<b>Centurion</b>	£1,299	ACi, www.aciplc.com, 020 8830 1958	Windows	Jun 04	<b>3.0</b>
<i>A no-frills Centrino-based laptop. Boasts 1GB of RAM for a reasonable price, but the screen and hard drive are notably average</i>					
<b>Crossbow XB-A700</b>	£1,275	Armari, www.armari.co.uk, 01923 225 550	Windows	Digit 76	<b>3.5</b>
<i>A good attempt to put workstation components in a small case. It looks great, but because of its small size, upgrade options are restricted</i>					
<b>EvoFlex 360-PCX59</b>	£1,575	Graphicsworkstations.com, 020 8544 0022	Windows	Oct 04	<b>4.0</b>
<i>There are a few weaknesses – the unit is incredibly noisy, for one – but overall this is an excellent budget option for the graphics professional</i>					
<b>IntelliStation M Pro</b>	£1,750	IBM, www.ibm.com/uk, 0800 015 7229	Windows	Oct 04	<b>2.5</b>
<i>Would have been a great choice a few months ago, but a few new technologies have rendered IBM's machine out-of-date</i>					
<b>Magnetar Xi</b>	£3,999	Armari, www.armari.co.uk, 01923 225 550	Windows	Sep 04	<b>4.0</b>
<i>Boasts supreme graphics performance, and is packed with features. However, it's pricey, and didn't perform that well on LightWave rendering</i>					
<b>NW8000</b>	£2,507	HP, www.hp.com, 0870 241 1485	Windows	Jun 04	<b>4.0</b>
<i>This mobile workstation is a little on the large side, but boasts a great screen, and fast powerful performance. It's a bit pricey for what you get</i>					
<b>NX7010</b>	£1,533	HP, www.hp.com, 0870 241 1485	Windows	Jun 04	<b>3.5</b>
<i>This laptop's feature list reads like a minimum recommended specs list for a creative notebook, and while it's adequate, it isn't anything special</i>					
<b>Pavilion zd7050EA</b>	£1,445	HP, www.hp.com, 0870 241 1485	Windows	May 04	<b>3.5</b>
<i>A big laptop with big ambitions. It's filled with wonderful little details, but needs a better processor and a higher-resolution screen</i>					
<b>PowerBook G4 (15-inch)</b>	£1,870	Apple, www.apple.com/uk, 0800 783 4846	Mac	Jun 04	<b>3.5</b>
<i>Not as cutting-edge as it once was, the PowerBook G4 is in need of an update. It's now underpowered, and only matches the encroaching competition</i>					
<b>PowerBook G4 (17-inch)</b>	£2,040	Apple, www.apple.com/uk, 0800 783 4846	Mac	Jun 04	<b>3.5</b>
<i>1GHz G4 chip; 17-inch/1,440-x-900-pixel screen; 64MB graphics memory; 60GB hard drive; 3.1kg; 4.5-hour battery life</i>					
<b>Power Mac G5 dual 2GHz</b>	£1,863	Apple, www.apple.com/uk, 0800 783 4846	Mac	Oct 04	<b>4.5</b>
<i>Ideal for the traditional Power Mac creative, but the dual 2GHz G5 is limited on high-end flexibility, but the G5 is perfect for 2D and video work</i>					
<b>Precision 370</b>	£1,939	Dell, www.dell.co.uk, 0870 152 4699	Windows	Oct 04	<b>3.0</b>
<i>Dell has delivered a machine that is fine for the corporate market, but best avoided by the creative user. Offers poor value for money, too</i>					
<b>Precision 670</b>	£5,691	Dell, www.dell.co.uk, 0870 152 4699	Windows	Nov 04	<b>4.0</b>
<i>The most powerful workstation we've seen but you need to spend £3,000 to upgrade the £1,200 model. Two 3.4GHz Xeon processors make it very fast</i>					
<b>Precision M60</b>	£2,349	Dell, www.dell.co.uk, 0870 152 4699	Windows	Jun 04	<b>4.5</b>
<i>A great mobile workstation – it's huge, but it packs a lot of power. Features media card reader slots and good ergonomic touches, and a decent screen</i>					
<b>Pro Cinebook 1.7</b>	£1,233	Evesham, www.evesham.com, 0870 160 9700	Windows	Jun 04	<b>4.0</b>
<i>Desperately tries to be a PowerBook. Doesn't match Apple's looks, but it does have shedloads more power and an absolute bargain price</i>					
<b>ThinkPad R50p</b>	£2,900	IBM, www.ibm.com/uk, 0800 015 7229	Windows	Jun 04	<b>4.0</b>
<i>The ThinkPad R50p is ugly, but confirms IBM's reputation for reliability and innovation. Features a Pentium M 1.7GHz, 1GB RAM, and a 60GB hard drive</i>					
<b>ThinkPad T41p</b>	£2,930	IBM, www.ibm.com/uk, 0800 015 7229	Windows	Jun 04	<b>3.5</b>
<i>A 14-inch version of the R50p, this notebook isn't as good value. The benefits brought by a smaller case are countered by lower screen resolution</i>					
<b>T900-NQ</b>	£1,999	Armari, www.armari.co.uk, 01923 225 550	Windows	Oct 04	<b>4.0</b>
<i>A powerful machine with a host of impressive technologies, although it could do with some more RAM. Incorporates an Iomega REV drive</i>					
<b>Vaio GRT996ZP</b>	£2,210	Sony, www.sony.co.uk, 08705 111 999	Windows	Jun 04	<b>4.5</b>
<i>A fine desktop replacement model, the Vaio GRT996ZP boasts a better screen than some standalone monitors. A 3.2GHz P4 chip makes it very fast</i>					
<b>Workstation xw4100</b>	from £855	HP, www.hp.com, 0870 241 1485	Windows	May 04	<b>3.5</b>
<i>A competent entry-level workstation, but there's too little power outside the graphics card – for a high price. Overall, the product line is acceptable</i>					
<b>X6</b>	£1,937	Xworks, www.xworksinteractive.com, 01785 229 191	Windows	Oct 04	<b>4.5</b>
<i>Aside from the black ash look, the X6 is a great machine that offers speed and top performance. Perfect for 2D, and easily upgraded for 3D work</i>					

## Digital cameras

<b>C-8080 Wide Zoom</b>	£640	Olympus, www.olympus.co.uk, 020 7523 2772	M   W	Aug 04	<b>4.0</b>
<i>The C-8080 Wide Zoom is good-looking and offers great output. The poor monitor and shutter response are the main weaknesses of this 8mp camera</i>					
<b>Camedia C-5060 WZ</b>	£420	Olympus, www.olympus.co.uk, 020 7523 2772	M   W	Jul 04	<b>4.0</b>
<i>The C-5060 WZ features a clever rotating monitor, and the widest-angle zoom of any prosumer compact camera. One of the best 5mp models available</i>					
<b>Coolpix 8700</b>	£765	Nikon, www.nikon.co.uk, 0800 230 220	M   W	Jul 04	<b>4.0</b>
<i>Improved 8mp prosumer digital camera with 8x zoom lens. The 8700 is better than the 5700, its 5mp predecessor, but not as sharp as Sony's DSC-F828</i>					
<b>Cybershot DSC-F828</b>	£765	Sony, www.sony.co.uk, 08705 111 999	M   W	Jul 04	<b>4.5</b>
<i>Fast, powerful, and enjoyable to use, this camera should please professional photographers, as long as they can live without custom user settings</i>					



Product name	Price	Company and contact details	Platform	Reviewed	Digit rating
<b>D2H</b> <i>Nikon's second-generation professional digital SLR is a fantastic camera, despite its relatively low resolution of 4mp. Great quality images</i>	£2,130	Nikon, www.nikon.co.uk, 0845 4500 155	M   W	Jan 05	<b>5.0</b>
<b>D70</b> <i>This is one of the first digital SLRs to move away from the professional market. It has consumer features like scene modes, plus pro fine-tuning options</i>	£680	Nikon, www.nikon.co.uk, 0845 4500 155	M   W	Jan 05	<b>4.5</b>
<b>Dimage A2</b> <i>This 8mp model is great to use, thanks to its high-quality viewfinder and excellent output. The image-stabilization technology is a real plus, too</i>	£650	KonicaMinolta, www.konicaminolta.co.uk, 020 8751 6121	M   W	Jul 04	<b>4.5</b>
<b>DCS Pro SLR/c</b> <i>It has a 13.9mp sensor, but this SLR is let down by a poor frame rate – only 1.7fps. A fine camera if you're not in a hurry, no good for sports or news</i>	£2,495	Kodak, www.kodak.co.uk, 01442 261122	M   W	Jan 05	<b>3.5</b>
<b>DX7630</b> <i>A high-resolution camera at a low price, the DX7630 has a good screen and full manual controls. Some of the controls are a little fiddly, though</i>	£298	Kodak, www.kodak.co.uk, 01442 261122	M   W	Jul 04	<b>4.0</b>
<b>EasyShare CX7430</b> <i>If simplicity is a virtue, the Kodak EasyShare CX7430 is perfect. It's good value for 4mp, but includes controls suitable only for point-&amp;-shooters</i>	£170	Kodak, www.kodak.co.uk, 0870 243 0270	M   W	Jun 04	<b>3.5</b>
<b>E-1</b> <i>The first camera built to the new Four Thirds lens mount standard, this SLR can't quite match the performance of more expensive models</i>	£850	Olympus, www.olympus-pro.co.uk, 0800 072 0070	M   W	Jan 05	<b>3.0</b>
<b>E-300</b> <i>Digital SLR with 8mp and Four Thirds lens and flashgun compatibility. Great output for a good price, but the menu system is slightly fiddly</i>	£595	Olympus, www.olympus.co.uk, 0800 072 0070	M   W	Feb 05	<b>4.0</b>
<b>EOS 20D</b> <i>This 8.2mp digital SLR offers fantastic image quality, great detail, a quick autofocus system, and a DIGIC II processor, all in a small and light body</i>	£925	Canon, www.canon.co.uk, 0800 616 417	M   W	Jan 05	<b>4.0</b>
<b>EOS-1D Mark II</b> <i>A digital SLR built for performance. Canon's DIGIC II processor, top notch exposure and autofocus technology, and 8.2 megapixels</i>	£2,562	Canon, www.canon.co.uk, 0800 616 417	M   W	Jan 05	<b>4.5</b>
<b>EOS-300D</b> <i>The lowest priced digital SLR on the market. All the important functions, such as user-definable white balance and sensor cleaning, are included</i>	£765	Canon, www.canon.co.uk, 0800 616 417	M   W	Dec 03	<b>4.5</b>
<b>Exilim Pro</b> <i>Fast and quiet with good image quality, plenty of advanced features, and bracketing options. The Exilim Pro is compact and solid, and a top model</i>	£425	Casio, www.exilim.co.uk, 020 8208 2838	M   W	Aug 04	<b>4.5</b>
<b>FinePix S2 Pro</b> <i>A top digital SLR model. Good on detail and easy to use, the FinePix S2 Pro has two memory card slots and supports both FireWire and USB</i>	£1,150	Fujifilm, www.fujifilm.co.uk, 020 7586 5900	M   W	Dec 03	<b>4.5</b>
<b>FinePix S7000</b> <i>Top-end prosumer digital camera with long zoom, fast responses, good control set and excellent 6mp or 12mp resolutions</i>	£470	Fujifilm, www.fujifilm.co.uk, 020 7586 5900	M   W	Jul 04	<b>4.0</b>
<b>*istD</b> <i>The smallest, lightest digital SLR on the market, the *istD doesn't offer as good value as some on the market, but still offers decent images</i>	£1,200	Pentax, www.pentax.co.uk, 01753 792 792	M   W	Jan 05	<b>3.5</b>
<b>FinePix F610 Zoom</b> <i>Stylish design, good controls, and great output make this 6.3mp camera a decent buy. However, it only ships with 16MB of storage</i>	£399	Fujifilm, www.fujifilm.co.uk, 020 7586 1477	M   W	Jun 04	<b>4.0</b>
<b>Lumix FZ10</b> <i>The 12x Leica zoom lens is powerful, and boasts built-in image stabilization. Image quality is great, but the supplied 16MB card is rather stingy</i>	£385	Panasonic, www.panasonic.co.uk, 08705 357 357	M   W	Sep 04	<b>4.0</b>
<b>PhotoPC-1400</b> <i>A basic, budget-priced 4mp camera. The 1400 boasts a good user interface, but it doesn't offer comprehensive control over shutter speed or aperture</i>	£200	Epson, www.epson.co.uk, 01442 261 144	M   W	Jul 04	<b>3.0</b>
<b>Photosmart 945</b> <i>The HP Photosmart 945 is simple to use, but its image quality doesn't compare favourably to the competition. A decent budget option nonetheless</i>	£255	HP, www.hp.com, 0870 241 1485	M   W	Jul 04	<b>3.5</b>
<b>PowerShot G6</b> <i>This 7.1mp upgrade to the well regarded G-series offers faster processing and excellent images. Sadly purple fringing on contrasting edges is still there</i>	£510	Canon, www.canon.co.uk, 0800 616 417	M   W	Nov 04	<b>4.5</b>
<b>PowerShot Pro1</b> <i>Canon's top prosumer camera, and the company's first long-zoom compact. An 8mp CCD, 7x zoom, and well-designed controls make the Pro1 a top buy</i>	£725	Canon, www.canon.co.uk, 08705 143 723	M   W	Jul 04	<b>4.5</b>
<b>SD10</b> <i>Improved version of low-cost digital SLR produces extremely sharp images despite low resolution. Unusual Sigma-only lens mount is only drawback</i>	£936	Sigma, www.sigma-imaging-uk.com, 01707 329 999	M   W	Jan 05	<b>3.0</b>

## Digital video cameras

<b>AG-DVC30</b> <i>A decent secondary pro camcorder but overpriced compared to Sony's PDX10. Features include IR-based B&amp;W night-vision mode</i>	£1,650	Panasonic, panasonic-broadcast.com, 08700 100 464	M   W	Dec 04	<b>3.5</b>
<b>AG-DVX100A</b> <i>The DVX100A has ruled the roost for years, but has been usurped by Canon's XL2. However this is still a great camera and has a lot to offer filmmakers</i>	£2,450	Panasonic, panasonic-broadcast.com, 08705 357357	M   W	Dec 04	<b>4.0</b>
<b>DCR-HC40</b> <i>The auto mode on this prosumer camcorder is seriously lacking – it really struggles with bright sunlight. Spot metering can fix the problem, though</i>	£446	Sony, www.sony.co.uk, 08705 111 999	M   W	Aug 04	<b>3.0</b>
<b>DCR-HC1000</b> <i>Good looking but ultimately disappointing DV camera lacking controls and let down by poor footage. Small, but not perfectly formed</i>	£850	Sony, www.sony.co.uk, 020 7365 2947	M   W	Dec 04	<b>2.5</b>
<b>DCR-PC109E</b> <i>Sony's upright palmcorder has a touch-sensitive LCD screen – focus can be set by pressing a spot on the LCD. Boasts decent image quality, too</i>	£489	Sony, www.sony.co.uk, 08705 111 999	M   W	Aug 04	<b>4.5</b>
<b>DVC-30</b> <i>The DVC-30 is a flexible DV camcorder that captures great footage. It offers manual functions and unique features, but lacks Sony's innovations</i>	£2,000	Panasonic, panasonicbroadcast.com, 08700 100 464	M   W	Apr 04	<b>4.0</b>

## DIGIT BEST BUY RECOMMENDATIONS: PROFESSIONAL PICTURES

### PROFESSIONAL DV CAMCORDERS

#### Canon XL2

For three grand you get a component-based system that is without doubt the best in the market. Footage is crisp and detailed



#### JVC Professional GY-DV5000E

A stalwart of the pro DV world for years time has seen a price drop from £5,000 to £2,900. Intuitive to use the full auto mode is ideal for news



#### Panasonic Broadcast AG-DVX100A

Once top of the heap the DVX100A still has a lot to offer indie filmmakers. It's light and is good close up, but is outdone by the XL2



#### Sony Broadcast PDX10P

At only £1,400 this attempt at combining professional and consumer features makes the PDX10P best in its class



#### Sony Broadcast DSR-PD170P

Sony's workhorse could do with a larger LCD screen, better CCDs and more features to bring it up to date – watch out for the FX1 and Z1



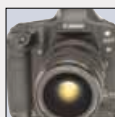
### RECOMMENDED:

#### Canon PowerShot G6

The ever-popular G series of digital cameras from Canon gets another upgrade. It's a 7.1mp model, and the quality makes it suitable for a pro



### SLR CAMERAS



#### Canon EOS-1D Mark II

Based on Canon's top professional film camera, the EOS-1, this digital SLR is built for the ultimate performance



#### Canon EOS-300D

Identical to the 10D in terms of image quality, the 300D is aimed more at the prosumer, with emphasis on automation and bargain pricing



#### Fujifilm FinePix S2 Pro

The S2 Pro offers flexible connectivity, bags of storage options, and a competitive price. Great on detail thanks to Fuji's Super CCD sensor



#### Nikon D70

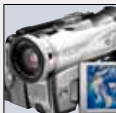
The D70 is a great value digital SLR that packs in some excellent professional-level features. Thankfully, the images look great too



#### Nikon D2H

An updated D1H, this offers improvements to the imaging technology and is incredibly quick. Excels out in the field

## DIGIT BEST BUY RECOMMENDATIONS: PROSUMER CAMCORDERS



### Canon MVX25i

There's virtually nothing to fault the MVX25i, with its 1/1.4-inch CCD, great colour fidelity, and stacks of manual controls



### Canon MVX3i

If 3CCD models are out of your reach, this is the next best thing, with excellent picture quality and ease of use, plus manual and pro features



### Panasonic NVGS200B

With a three-CCD imaging system, the NVGS200B offers superior colour fidelity, a proper focus ring, and good audio and accessory options



### Samsung VP-D590i

Vertical DV camera; 800,000 pixel CCD; 10x optical zoom lens; digital image stabilization; Night eye; 355g; 2.5-inch viewfinder



### Sony DCR-PC109E

This upright palmcorder's touch-screen is unique, and makes the unit really easy to use. The output is great, with vibrant colours and good detail

## buying advice: DVD drives

Unlike CD-RW, recordable and rewritable DVD drives and media are split between three incompatible formats – though recent efforts have brought them closer together.

DVD-R and DVD-RW, writable and rewritable versions of the same format, were created by the DVD Forum, the original inventors of the DVD format. DVD+R and DVD+RW were developed by the DVD+RW Alliance. DVD-RAM was also invented by the DVD Forum. It differs from DVD-RW and DVD+RW in that it has a disc layout that doesn't require linear writing, as with conventional CD-RW, DVD-RW or DVD+RW discs. This allows it to be used like a hard drive, with drag-&-drop adding and deleting of files.

The main difference between DVD-R/RW and DVD+R/RW, apart from the basic incompatibility, is the lack of support for DVD+RW on the Mac. DVD-R and DVD+R both have current top speeds of 4x, with DVD+RW's 2.4x top speed beating DVD-RW's 2x. Though these speeds seem slow when compared to CD burners, you actually get a lot more from each speed with DVD. A 4x DVD-R burner creates an entire 4.7GB disc in the same time as it took an old 4x CD-R drive to build a 700MB disc. DVD-R/RW and DVD+R/RW speeds are likely to grow at the same rate as CD-R/RW did, if not faster. Manufacturers say they're unlikely to get as fast as current CD-R/RW speeds – though they also said that about CD-R/RW in the past.

Product name	Price	Company and contact details	Platform	Reviewed	Digit rating
<b>DSR-PD70P</b>	£2,200	Sony, www.sonybiz.net, 0870 6060 456	M   W	Dec 04	<b>3.5</b>
<i>Sony's workhorse pro-level DV camcorder has a loyal following who swear by it. With controls to match the competition this would be a top model</i>					
<b>GR-D93EK</b>	£510	JVC, www.jvc.co.uk, 0870 330 5000	M   W	Aug 04	<b>3.5</b>
<i>Top of JVC's budget prosumer range, the GR-D93EK lacks some key features – such as a microphone input, headphone output, and accessory shoe</i>					
<b>GR-DVP9EK</b>	£765	JVC, www.jvc.co.uk, 0870 330 5000	M   W	Aug 04	<b>3.0</b>
<i>As small as a dictaphone, the GR-DVP9EK is stylish, light, and compact. It features a decently-sized 1/4-inch CCD, and plenty of manual functions</i>					
<b>GY-DV5000E</b>	£2,900	JVC, www.jvcpro.co.uk, 020 8896 6000	M   W	Dec 04	<b>4.0</b>
<i>This stalwart of the scene is intuitive for those used to conventional broadcast cameras, offering good manual control and excellent auto</i>					
<b>JY-HD10E</b>	£2,650	JVC, www.jvcpro.co.uk, 020 8896 6000	M   W	Dec 04	<b>2.5</b>
<i>Very popular because for a year it was the only HDV camcorder available. But lacks manual control, is American format and has been superseded</i>					
<b>MV750i</b>	£375	Canon, www.canon.co.uk, 08705 143 723	M   W	Aug 04	<b>3.0</b>
<i>A very cheap prosumer camcorder, the MV750i's performance is unfortunately reflected in the price. The picture is OK, but image-stabilization is poor</i>					
<b>MVX25i</b>	£765	Canon, www.canon.co.uk, 08705 143 723	M   W	Aug 04	<b>5.0</b>
<i>The MVX25i is worth the money – there's virtually nothing to fault this prosumer model. The 1/3.4-inch CCD stands out</i>					
<b>MVX250i</b>	£529	Canon, www.canon.co.uk, 08705 143 723	M   W	Aug 04	<b>3.0</b>
<i>A 1/4.5-inch CCD is large for a camcorder at this price, and this model makes several premium features more affordable</i>					
<b>NVGS200B</b>	£850	Panasonic, www.panasonic.co.uk, 0870 906 8357	M   W	Aug 04	<b>5.0</b>
<i>The NVGS200B's three-CCD imaging system delivers vibrant, well-defined colour. Every manual feature you'd need is catered for and easy to use</i>					
<b>NVGS400</b>	£900	Panasonic, www.panasonic.co.uk, 0870 906 8357	M   W	Dec 04	<b>4.0</b>
<i>The NGS400 isn't a true professional-level DV camera, but it does offer some pro applications. Three CCDs, and clean footage with accurate colours</i>					
<b>NVGS55B</b>	£510	Panasonic, www.panasonic.co.uk, 0870 906 8357	M   W	Aug 04	<b>4.0</b>
<i>The NVGS55B packs a lot into a small package, including an accessory shoe and microphone input. There is a healthy selection of manual controls, too</i>					
<b>PDX10P</b>	£1,400	Sony, www.sonybiz.net, 0870 6060 456	M   W	Dec 04	<b>4.0</b>
<i>This is Sony's attempt to combine the best from the pro and consumer worlds and it works well. Top of its class in compact and mobile DV cams</i>					
<b>XL2</b>	£3,000	Canon, www.canon.co.uk, 08705 143 723	M   W	Dec 04	<b>4.5</b>
<i>Digit's Best Buy and the best indie-film DV camera in the market. It's £500 more than the DVX100A but is a better component-based system</i>					
<b>XM2</b>	£1,350	Canon, www.canon.co.uk, 08705 143 723	M   W	Mar 04	<b>2.5</b>
<i>There's nothing inherently wrong with Canon's XM2 – it has a great lens, and many pro-level features. However, it's now old and out of date</i>					

## Input devices

<b>Intuos3</b>	from £129	Wacom, wacom-europe.com @ CU, 020 8358 5857	M   W	Dec 04	<b>4.0</b>
<i>A smart new design and an improved pen make the Intuos3 a great graphics tablet. The mouse is a bit unbalanced, but overall a decent buy</i>					
<b>MX700</b>	£51	Logitech, www.logitech.com, 020 7309 0127	M   W	Jan 03	<b>4.5</b>
<i>The best cordless mouse on the market: flexible, rechargeable, and offering the level of precision a designer requires – at a price</i>					
<b>SpaceBall</b>	from £375	3Dconnexion, www.3dconnexion.com, 01952 243 629	Windows	Sep 04	<b>3.5</b>
<i>Two-handed input devices that potentially prevent RSI, but they're unlikely to change the way you work, as there's no real benefit in terms of speed</i>					

## Storage devices

<b>Bravo II Disc Publisher</b>	£1,395	Primera Technology, primera.com @ Microboards, 0845 230 7800	M   W	Digit 76	<b>3.5</b>
<i>A pricey convenience, the Bravo II Disc Publisher nonetheless offers good duplicating and printing facilities if you need to produce small runs of CDs</i>					
<b>FlashTrax</b>	from £260	SmartDisk, www.smartdisk.com, 01252 530 960	M   W	May 04	<b>4.0</b>
<i>The FlashTrax is an inexpensive way to avoid taking a mountain of costly media cards out when photographing – if you can take your eyes off the iPod</i>					
<b>MediaBank HS-R</b>	£299	Miglia, www.miglia.com, 0870 747 2988	M   W	Mar 04	<b>4.0</b>
<i>If speed and security are high on your priority list for external storage – and cost per MB isn't – the FireWire 800-enabled MediaBank HS-R is great</i>					
<b>REV</b>	£249	Iomega, www.iomega.co.uk, 00 353 1213 3754	Windows	Jul 04	<b>3.0</b>
<i>Cartridge-based storage system. Low-cost cartridges makes the REV a real rival to tape and DVD archiving systems. Sadly, it doesn't support Macs</i>					

## Monitors

<b>Cinema Display</b>	£851	Apple, www.apple.com/uk, 0800 783 4846	M   W	Oct 04	<b>4.5</b>
<i>Stunning picture quality for under £1,000. The design looks great next to a G5, but it only has a single input and no picture modes</i>					
<b>Cinema Display HD</b>	£1,360	Apple, www.apple.com/uk, 0800 783 4846	Mac	Digit 76	<b>3.5</b>
<i>More manual controls needed, but at almost half its original price this 23-inch LCD with huge resolution now offers excellent value for money</i>					
<b>ColorEdge CG21</b>	£1,279	Eizo, www.eizo.co.uk, 01483 719 500	M   W	Digit 76	<b>4.5</b>
<i>It's been overtaken by Barco's Coloris Calibrator for the best LCD crown, but this 21.3-inch model is far more realistically priced</i>					
<b>Coloris Calibrator</b>	£2,999	Barco, www.barco.com @ Colour Confidence, 0121 604 1234	M   W	Digit 76	<b>4.0</b>
<i>Barco's first LCD for the graphics market is massively expensive, but boasts fantastic colour-accuracy and a built-in calibration sensor</i>					



Product name	Price	Company and contact details	Platform	Reviewed	Digit rating
<b>Colour Reference System</b>	£1,446	Sony, www.sony-cp.com, 08705 111 999	M   W	Jun 03	<b>5.0</b>
<i>The best monitor we've ever used. The GDM-CS20K monitor and Sony/GretagMacbeth calibrator are a winning pair – for a comparatively low price</i>					
<b>Diamond Pro 2070SB</b>	£485	NEC-Mitsubishi, nec-mitsubishi.com, 020 7202 6300	M   W	Apr 04	<b>4.0</b>
<i>A decent monitor that has been overtaken by the competition. Boasts super-sharp picture, but is let down by poor colour handling</i>					
<b>Electron22blue IV</b>	£549	LaCie, www.lacie.com/uk, 020 7872 8000	M   W	Apr 04	<b>4.5</b>
<i>The Electron22blue boasts excellent picture quality, and offers great value for money. You won't get a better monitor without really splashing out</i>					
<b>Flatron L2320A</b>	£1,999	LG, www.lge.com, 01753 491 500	M   W	Digit 76	<b>3.0</b>
<i>Modern design and good functionality makes this 23-inch LCD a decent monitor, but it falls short of professional status due to poor picture quality</i>					
<b>Gallery 2010 Platinum</b>	£779	Formac, www.formac.co.uk, 020 8533 4040	M   W	Digit 76	<b>3.0</b>
<i>A 20.1-inch LCD with unimpressive picture quality. Formac's Gallery 2010 Platinum is slightly more flexible than the Apple Cinema display range</i>					
<b>Multiscan F520</b>	£769	Sony, www.sony cp.com, 0990 424 424	M   W	Apr 04	<b>4.0</b>
<i>This flat-screened CRT offers superb picture quality. It's quite expensive, but good refresh rates and three display modes are worth the cash</i>					
<b>MultiSync LCD2180UX</b>	£1,099	NEC Mitsubishi, www.mitsubishi monitors.com, 020 7202 6300	M   W	Digit 76	<b>4.0</b>
<i>A pricey 20-inch LCD, the LCD2180UX features a large colour gamut and great picture quality – though it's not quite up to the Eizo ColorEdge CG21</i>					
<b>p1230</b>	£457	HP, www.hp.com/uk, 0870 241 1485	M   W	Apr 04	<b>4.0</b>
<i>A fine monitor and excellent value for money, the p1230 boasts good picture quality and a compact case. Sadly, there is no USB hub included</i>					
<b>p225f</b>	£399	Viewsonic www.viewsonic.co.uk, 01293 643 900	M   W	Apr 04	<b>3.5</b>
<i>The design of the unit is dated, and the picture quality isn't anything to brag about either. However, it includes a USB hub, and at least it's cheap</i>					
<b>Photon20visionII</b>	from £603	LaCie, www.lacie.com/uk, 020 7872 8000	M   W	Oct 04	<b>4.5</b>
<i>Picture quality is marginally inferior to Apple's Cinema Display, but still fantastic. The Photon20visionII offers picture modes, and a budget version</i>					
<b>Reference Calibrator V</b>	£3,250	Barco, www.barco.com @ Colour Confidence, 0121 604 1234	M   W	Apr 04	<b>3.0</b>
<i>The cost is immense, but for the ultimate in colour calibrated workflow, there is no alternative. However, the screen is curvy by today's standards</i>					
<b>SDM-S204</b>	£770	Sony, www.sony cp.com, 0990 424 424	M   W	Digit 76	<b>3.5</b>
<i>This is an unimpressive unit – the definition of an average 20.1-inch display. It has a high contrast ratio – 500:1 – but otherwise it doesn't stand out</i>					
<b>Studioworks N2200P</b>	£462	LG, www.lge.co.uk, 0870 607 5544	M   W	Apr 04	<b>3.0</b>
<i>This CRT is decidedly mediocre, with poor refresh rates at high resolutions, and lacklustre design. Includes Colorific calibration software</i>					
<b>SyncMaster SM243</b>	£1,701	Samsung, www.samsung.co.uk, 0870 242 0303	M   W	Digit 76	<b>4.5</b>
<i>A massive 24-inch LCD, the SyncMaster SM243 is remarkably compact considering its size. Picture quality is fine after calibration</i>					
<b>UltraSharp 2001FP</b>	£670	Dell, www.dell.com/uk, 0870 152 4699	M   W	Digit 76	<b>4.5</b>
<i>This 20.1-inch LCD offers great image quality – especially when you consider the price. Features two USB ports, and a slim, stylish design</i>					
<b>VP201b</b>	£698	Viewsonic, www.viewsonic.com/uk, 01293 643 900	M   W	Digit 76	<b>3.0</b>
<i>An inexpensive but otherwise unimpressive 20.1-inch LCD. Suffers from graininess – particularly in blocks of colour – and an overall lacklustre picture</i>					

## Printers

<b>Bubble Jet i990</b>	£255	Canon, www.canon.co.uk, 08705 143 723	M   W	Apr 04	<b>4.5</b>
<i>Unless you require the quality of Epson's R800 – and are prepared to wait for it – the swift and accurate i990 is the best A4 inkjet printer available</i>					
<b>Bubble Jet i9950</b>	£465	Canon, www.canon.co.uk, 08705 143 723	M   W	Jul 04	<b>4.5</b>
<i>This A3+ photo printer has a PictBridge camera port at the front, and the ChromaPLUS eight-ink system. USB 2.0 and FireWire interface</i>					
<b>CS100n</b>	£699	Oki, www.oki.co.uk, 0800 917 6015	M   W	Apr 04	<b>3.0</b>
<i>The un-demanding designer may find a bargain in the CS100n, but everyone else should look at least as far as the Xerox Phaser 8400N</i>					
<b>Designjet 120nr</b>	£1,600	HP, www.hp.com/uk, 0845 270 4222	M   W	May 04	<b>4.0</b>
<i>An excellent addition to a busy design studio. It may not be the world's fastest printer, but its price, quality, and versatility speak for themselves</i>					
<b>Designjet 130</b>	£1,100	HP, www.hp.com/uk, 0845 270 4222	M   W	Jun 04	<b>4.5</b>
<i>Exceptional output quality for photographs and artwork. The Designjet 130 is compact, flexible, and good value for money</i>					
<b>Designjet 30n</b>	£535	HP, www.hp.com/uk, 0845 270 4222	M   W	Jul 04	<b>4.5</b>
<i>Despite some usability issues, the Designjet 30n outputs exceptional quality photographs and artwork – better than most A3 photo printers</i>					
<b>P915</b>	£80	Lexmark, www.lexmark.co.uk, 0870 44 0044	M   W	Feb 05	<b>3.5</b>
<i>This A4 consumer-focused photo printer offers great print quality, and features such as support for four memory card formats make it a bargain</i>					
<b>Phaser 8400N</b>	£909	Xerox, xerox.co.uk, 0870 873 3873	M   W	Apr 04	<b>4.5</b>
<i>Nothing can match the 8400N for under £1,000. It boasts fast colour output, true PostScript support, and great graphics quality</i>					
<b>PIXMA iP8500</b>	£280	Canon, www.canon.co.uk, 08705 143 723	M   W	Feb 05	<b>4.0</b>
<i>A strange shape, the PIXMA iP8500 is billed as a printer for pro photographers, but doesn't have any digital camera card slots. Fast, with good output</i>					
<b>Photosmart 7762</b>	£152	HP, www.hp.com/uk, 0870 241 1485	M   W	Jun 04	<b>4.0</b>
<i>An excellent printer for the photographer – top quality with a friendly price. You may find yourself swapping print cartridges in and out a lot, though</i>					
<b>Photosmart 8450gp</b>	£275	HP, www.hp.com/uk, 0870 241 1485	M   W	Feb 05	<b>4.5</b>
<i>Stylish printer for digital photographers, packed with features for the serious user. Supports five different digital camera cards, as well as PictBridge</i>					

## DIGIT BEST BUY RECOMMENDATIONS: MONITORS



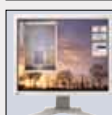
### Apple Cinema Display

The picture quality is stunning, and Apple's 20-inch LCD offers the usual great styling. It's DVI inputs allow non-Mac use for the first time



### Dell UltraSharp 2001FP

A great 20-inch LCD, the Dell UltraSharp 2001FP offers good value for money and high-quality output. Good response times and clever design



### Eizo ColorEdge CG21

The best LCD package available. Perfect colour accuracy makes the CG21 a great buy for any designer – despite the comparatively high price



### LaCie Electron22blue IV

This CRT is a fine monitor that offers great picture quality and high resolution. You'll be hard pushed to find a better monitor at such a good price



### LaCie Photon20visionII

This 20-inch LCD offers great picture quality at an attractive price. There's a budget version, but the full version comes with a stylish hood



### Samsung SyncMaster SM243

A whopping 24-inch viewing area makes this the giant of the LCD market. The SyncMaster's output is great, and the price is reasonable



### Sony Colour Reference System

The best monitor we've ever used. The GDM-CS20K monitor and Sony/GretagMacbeth calibrator are a winning pair – for a comparatively low price

## buying advice: monitors

The first decision you'll need to make is whether to get a flat-panel display, based on liquid crystal display (LCD) technology, or a cathode-ray tube (CRT) monitor.

CRTs are cheaper and offer higher colour vibrancy and accuracy than LCDs. If low price is your biggest requirement, or if you're looking for a display for publishing or design work, go with a CRT.

An LCD display's advantage is unparalleled sharpness and ultra-thin profile. In recent years, the quality of LCDs has improved to the point where they are suitable for all but very high-end graphics work.

A screen hooked-up to a digital DVI or ADC connector offers sharper, clearer images than those connected via an analog VGA connector. Analog LCDs sometimes suffer from noise, a by-product of converting the video signal from digital to analog and then back again.

The resolution of a monitor is expressed in horizontal and vertical pixel dimensions. The higher the resolution, the more you will be able to see on-screen. The more inches, the larger the pixels. A CRT's dot pitch measures how close adjacent phosphor dots (or stripes on aperture-grille CRTs) are to each other. In general, the smaller the dot pitch, the sharper the display will be.

On CRT monitors, a low refresh rate – how many times your computer sends a fresh copy of the screen image to your display – implies flicker, a major cause of eyestrain. LCDs don't suffer from flicker at all.



**RECOMMENDED:**  
**HP PhotoSmart 8450g**  
A stylish printer for the digital photographer. Can download pictures direct from your camera, or a variety of memory card formats, and offers first-rate picture quality

#### tech notes: flatbed scanners

A genuinely useful recent development in desktop scanners is the Digital ICE technology that cleans up and enhances originals. It was developed by Applied Science Fiction (ASF) in Texas, now owned by Kodak and renamed Kodak ADC (Austin Development Centre). Kodak licenses the technology to scanner makers, and it features in both the Microtek and Epson scanners on test.

The main ICE (Image Correction & Enhancement) requires the scanner to be purpose-built with infrared LEDs inside to detect dust and scratches. Any blemishes are digitally removed from the scan without blurring. This saves a lot of retouching work, though it does slow down scanning.

Digital ICE was originally only available in dedicated film scanners, but the past year has seen it appear in a handful of flatbeds. Not all implementations of Digital ICE are equal, so check before you buy. Some scanners (such as the Microtek ScanMaker 6800) have ICE dust and scratch reduction software instead of the desirable built-in IR detector hardware.

Even where there is IR hardware, some versions only work with film. Others can manage prints as well. The film version only works with colour negatives and positives, not black-&-white.

Other functions include Digital GEM (Grain Equalization & Management), and Digital ROC (Restoration of Colour), but the implementation of these technologies varies from model to model, so it's best to check out the details before you buy.

#### DIGIT BEST BUY RECOMMENDATIONS: GRAPHICS CARDS



**3Dlabs Realizm 100**  
This is a great value card. It boasts two display outputs, two DVI output, 256MB memory, and 8x max AGP support



**PNY Nvidia FX 1300**  
The PCI Express card is quick, solid, and good value. It boasts 128MB memory, two display outputs, and two DVI outputs

Product name	Price	Company and contact details	Platform	Reviewed	Digit rating
<b>PIXMA iP8500</b>	£280	Canon, www.canon.co.uk, 08705 143 723	M   W	Feb 05	<b>4.0</b>
<i>A strange shape, the PIXMA iP8500 is billed as a printer for pro photographers, but doesn't have any digital camera card slots. Fast, with good output</i>					
<b>Stylus Pro 2100</b>	£387	Epson, www.epson.co.uk, 0800 220 546	M   W	Feb 05	<b>4.0</b>
<i>An A3+ alternative to Epson's R800. A seven-ink system allows you to swap between matte black and photo black cartridges as required</i>					
<b>Stylus Photo R300M</b>	£135	Epson, www.epson.co.uk, 0800 220 546	M   W	Jun 04	<b>3.5</b>
<i>Considering the price, the quality is very high. However, printing is slow, and the output quality doesn't compare well to more expensive models</i>					
<b>Stylus Photo R800</b>	£399	Epson, www.epson.co.uk, 0800 220 546	M   W	Feb 05	<b>4.0</b>
<i>The highest-quality photo inkjet printer on the market, the R800 produces accurate photos, though it's slow and can't print borderless on the Mac</i>					
<b>Stylus Pro 4000</b>	£1,495	Epson, www.epson.co.uk, 0800 220 546	M   W	May 04	<b>3.0</b>
<i>This proofer boasts good results thanks to extra ink colours, which don't slow printing down. Some calibration quirks, but otherwise a good choice</i>					
<b>W2200</b>	£1,995	Canon, www.canon.co.uk, 08705 143 723	M   W	May 04	<b>3.0</b>
<i>This desktop proofer is now a couple of years old, but despite its age, delivers good results. Some practical problems, but very fast</i>					
<b>WP-20 Wireless Print Server</b>	£120	Canon, www.canon.co.uk, 08705 143 723	M   W	Apr 04	<b>4.0</b>
<i>Canon needs to fix the installation process, but the WP-20 Wireless Print Server is the simplest and best mechanism for networking an inkjet printer</i>					

## Scanners

<b>CanoScan 9900F</b>	£250	Canon, www.canon.co.uk, 08705 143 723	M   W	Sep 04	<b>3.5</b>
<i>A top scanner at a low price, the 48-bit colour depth and 3,200-x6,400dpi resolution are great, but it's let down by poor software</i>					
<b>Expression 10000 XL Pro</b>	£1,634	Epson, www.epson.co.uk, 0800 220 546	M   W	Sep 04	<b>4.0</b>
<i>This A3 scanner boasts 2,400-x4,800 optical resolution and 3.8 dynamic range. Film scanning is no more than adequate, but it's fine for larger formats</i>					
<b>FineScan 2750</b>	£6,500	Fujifilm, www.fujifilm.co.uk/gs, 01234 245245	M   W	Sep 04	<b>4.0</b>
<i>You could use this high-end A3 format and film scanner confidently to produce a top-quality magazine, but it's been usurped by the iQsmart1</i>					
<b>iQsmart1</b>	£6,382	Creo, www.creo.com, 01242 285 100	M   W	Sep 04	<b>4.5</b>
<i>Professional A3 film scanner aimed at creatives. You don't need to be a pre-press expert to get great results, and the resolution is good at 3,200dpi</i>					
<b>Perfection 4870 Photo</b>	£270	Epson, www.epson.co.uk, 0800 220 546	M   W	Sep 04	<b>4.5</b>
<i>Low-cost flatbed scanner with high resolution and dynamic range. Built-in Digital ICE dust/scratch removal makes this good value – if slow</i>					
<b>Scanjet 4670</b>	£139	HP, www.hp.com/uk, 0870 547 4747	M   W	Sep 04	<b>3.5</b>
<i>The portable Scanjet 4670 is an innovative idea, and at a reasonable price too. Sadly, the unit's performance is not up to scratch</i>					
<b>Scanjet 5530 Photosmart</b>	£156	HP, www.hp.com/uk, 0870 547 4747	M   W	Sep 04	<b>3.0</b>
<i>This desktop scanner is tuned for high-speed print scanning. It's slightly larger than A4, but only takes single strips of 35mm film at a time</i>					
<b>ScanMaker i700</b>	from £254	Microtek, microtekeurope.com, 0870 906 3304	M   W	Jan 05	<b>4.0</b>
<i>High-resolution flatbed film scanner with Digital ICE, and a decent feature and software set. An attractively priced all-rounder</i>					
<b>ScanMaker i900</b>	£595	Microtek, microtekeurope.com, 01327 844 880	M   W	Sep 04	<b>3.5</b>
<i>This A4+ scanner has a conventional top bed for reflection copy, as well as a separate slide-in tray for film. It's a good scanner, but not good value</i>					
<b>Super CoolScan 5000 ED</b>	£935	Nikon, www.nikon.co.uk, 0800 230 220	M   W	Apr 04	<b>4.5</b>
<i>High-res film scanner with advanced post-processing functions. Excellent colour and shadow handling, with automatic restoration of worn originals</i>					
<b>Super CoolScan 9000 ED</b>	£2,000	Nikon, www.nikon.co.uk, 0800 230 220	M   W	Feb 05	<b>4.0</b>
<i>Versatile high-res film scanner with Digital ICE4. Can handle all formats from miniature to 6-x7cm. Only 35mm and 120/220 film holders are supplied</i>					

## Graphics cards

<b>FireGL X3-256</b>	£699	ATI, www.ati.com, 01628 477 788	Windows	Nov 04	<b>4.0</b>
<i>ATI's highest-spec AGP graphics accelerator has a massive 7cm fan that gives a lot of cooling power. It's pricey, though</i>					
<b>FireGL V3200</b>	£249	ATI, www.ati.com, 01628 477 788	Windows	Nov 04	<b>3.5</b>
<i>This 128MB PCI-based card is a decent card at a good price. It performs in the mid-range on Maya and Max, but is a winner for Cinema 4D</i>					
<b>FireGL V5100</b>	£499	ATI, www.ati.com, 01628 477 788	Windows	Nov 04	<b>4.0</b>
<i>ATI's decent value 256MB PCI Express card offers 22.4GB/s memory bandwidth, has the same massive fan as the X3-256 but doesn't need extra power</i>					
<b>Parhelia 256MB</b>	£365	Matrox, www.matrox.com, 01753 665 544	Windows	Nov 04	<b>3.0</b>
<i>The Parhelia 256MB is small, and needs no external power. It supports three monitors at once so it's good for VJing or video production. Costly</i>					
<b>PNY Nvidia FX 1100</b>	£645	Nvidia, www.nvidia.com, 01784 224 220	Windows	Nov 04	<b>4.0</b>
<i>Good performance but with 128MB memory and a £650 price tag you would expect more from it. Outclassed by the Realizm 100</i>					
<b>PNY Nvidia FX 1300</b>	£535	Nvidia, www.nvidia.com, 01784 224 220	Windows	Nov 04	<b>4.5</b>
<i>A Digit Best Buy this PCI-Express card is small, solid, and well-priced. With 128MB of DDR RAM, it's good enough for most situations in 3D applications</i>					
<b>PNY Nvidia FX 3400</b>	£929	Nvidia, www.nvidia.com, 01784 224 220	Windows	Nov 04	<b>3.0</b>
<i>At an earth-shattering price performance should have been better overall. The FX 1300 offers much better value for performance</i>					
<b>Realizm 100</b>	£683	3Dlabs, www.3dlabs.com, 01784 470 555	Windows	Nov 04	<b>4.5</b>
<i>Very good value. One of the most capacious cards on test and a Best Buy. 8xAGP support; 256MB memory; two DVI outputs; two display outputs</i>					
<b>Realizm 200</b>	£874	3Dlabs, www.3dlabs.com, 01784 470 555	Windows	Nov 04	<b>4.0</b>
<i>If you need to visualize scenes with a lot of textures, this is ideal. 8xAGP support; 512MB memory; two DVI outputs; two display outputs</i>					



Product name	Price	Company and contact details	Platform	Reviewed	Digit rating
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## 3D and animation software

<b>3DS Max 7</b>	£2,695	Discreet, www.discreet.com, 01252 456 669	Windows	Jan 05	<b>4.5</b>
<i>Version 7 incorporates Character Studio 4, and features Normal Bump Mapping, Subsurface Scattering, and enhanced modelling and viewing tools</i>					
<b>Animation:Master v 11.0</b>	\$299	Hash, www.hash.com, 001 360 750 0042	M   W	Aug 04	<b>4.0</b>
<i>Oriented towards teaching people the basics of 3D animation, Animation:Master is nonetheless a decent, good-value character animation package</i>					
<b>Carrara 4 Pro</b>	£419	Eovia, www.eovia.com @ Computers Unlimited, 020 8200 8282	M   W	Feb 05	<b>4.5</b>
<i>Offers a wide range of features. Bones and IK animation are easy to use, and the suite boasts real-time terrain-creation and network rendering</i>					
<b>CAT V1.2</b>	£549	CAT, catoolkit.com @ Graphics Domain, 01869 255 815	M   W	Aug 04	<b>4.5</b>
<i>A complete character-animation system for 3DS Max. It features a highly flexible and easy-to-create character rigging system called CATRig</i>					
<b>Character Studio 4.2</b>	£695	Discreet, www.discreet.com, 01252 456 669	M   W	Aug 04	<b>4.0</b>
<i>Although Character Studio is often derided by 'real' animators, few solutions offer this level of productivity for bulk character animation work</i>					
<b>Cinema 4D 9</b>	£424	Maxon, www.cinema4d.co.uk, 0500 224 660	M   W	Jan 05	<b>4.5</b>
<i>Version 9 supports N-gons, Brush, Melt, and enhanced knife tools. One of the best 3D applications out there – perfect for learning the craft</i>					
<b>EIAS 5.5</b>	\$895	El Technology Group, eitechnologygroup.com, 001 830 438 4955	M   W	Sep 04	<b>3.5</b>
<i>3D suite that offers fast, high-quality rendering, good HDR1 support, and unlimited network rendering. The Silo component is sadly Windows only</i>					
<b>Endorphin 1.5</b>	£7,995	NaturalMotion, www.naturalmotion.com, 01865 250 575	Windows	Aug 04	<b>4.0</b>
<i>This character-animation system features customizable AI behaviours dynamic retargeting, and active posing. However, it's expensive and buggy</i>					
<b>Life Forms 4.0</b>	£5495	Credo Interactive, www.charactermotion.com, 001 604 291 6717	M   W	Aug 04	<b>3.0</b>
<i>This tool imports third-party models and adds motion to them. It can be a bit of a mysterious process, and importing is often long-winded</i>					
<b>LightWave 3D 8</b>	£945	NewTek, www.newtek.com, www.newtek-europe.com/uk	M   W	Oct 04	<b>4.0</b>
<i>Version 8 of this 3D suite has new character animation tools including bone editing and rigging enhancements, plus an IK booster and loads more</i>					
<b>Messiah:animate 4.0</b>	\$595	pmG Worldwide, projectmessiah.com	Windows	Aug 04	<b>4.0</b>
<i>A worthy update with a focus on workflow and rendering speed, but new features such as fur-&amp;hair creation and fake radiosity are impressive</i>					
<b>Maya 6</b>	from £1,449	Alias, alias.com, 01494 441 273	M   W   L	Oct 04	<b>4.5</b>
<i>Maya is the industry-standard high-end 3D effects and character animation tool. Its workflow is creative and experimental, but hugely powerful</i>					
<b>MotionBuilder 6</b>	from £645	Alias, www.alias.com, 01494 441 273	M   W	Feb 05	<b>4.0</b>
<i>Imports 3D character-models for animating. There's expanded keyframe features in version 6, along with enhanced character manipulation</i>					
<b>Nat FX v2</b>	£750	Bionatics, www.bionatics.com, 0033 149 691 220	Windows	Dec 04	<b>4.5</b>
<i>A true high-end solution for creating and animating 3D foliage. A superb system, costly, but the animation is the best we've seen</i>					
<b>Shade 7</b>	£552	Curious Labs, www.curiouslabs.com @ CU, 020 8200 8282	M   W	Jan 05	<b>3.0</b>
<i>Full function 3D modeller and renderer for a reasonable price. Integrates with Poser, ArchiCAD, Illustrator, and Photoshop. Not as easy to use as it looks</i>					
<b>SketchUp 4.0</b>	£345	@Last Software, www.sketchup.com @ CU, 020 8200 8282	M   W	Sep 04	<b>4.0</b>
<i>@Last adds an intuitive push/pull tool to this easy-to-use design software. One of the easiest 3D graphics programs to master</i>					
<b>SoftimageXSI 4.0</b>	from £299	Softimage, www.softimage.com, 01753 655 999	W   L	Oct 04	<b>4.5</b>
<i>Powerful 3D modelling and animation suite that boasts one of the best renderers available. Great workflow and interface makes this a top package</i>					
<b>Strata CX</b>	£695	Strata, www.strata.com @ Grey Matter, 0870 366 5577	M   W	Feb 05	<b>4.0</b>
<i>This 3D modelling, animation and rendering suite is easy to use, and the familiar interface and high-quality rendering make Strata a good buy</i>					
<b>SpeedTree</b>	£215	IDV, www.idvinc.com, 001 803 233 0073	Windows	Dec 04	<b>3.5</b>
<i>This 3DS Max plug-in generates animatable, realistic trees, though not as realistic as the more expensive Nat FX</i>					
<b>Swift 3D 4</b>	£149	Electric Rain, www.eraim.com, 001 303 543 8233	Windows	Sep 04	<b>4.5</b>
<i>Rendering times are a bit slow, but this is a versatile and easy-to-use 3D-to-Web application. Good quality animation tools and Flash importer</i>					
<b>Vue 5 Esprit</b>	£171	E-on Software, www.e-onsoftware.com, 0033 143 553 671	M   W	Feb 05	<b>4.0</b>
<i>This landscape-generation software is more expensive than its rivals, and requires OpenGL hardware for best results. Good output and features, though</i>					
<b>World Construction Set 6</b>	£650	3D Nature, www.3dnature.com @ N Light, 0117 904 9452	M   W	Jun 04	<b>4.5</b>
<i>Arguably the best 3D landscaping program, but not that intuitive. Fiercely detailed, you need the mind of a geographer to get the best from it</i>					
<b>Xfrog</b>	£220	Greenworks, www.greenworks.de, 0049 3046 7963 31	M   W	Dec 04	<b>4.0</b>
<i>A novel system for creating trees and plants and very logical and intuitive in use. Animation is on offer: you can simulate growth effects and wind</i>					
<b>ZBrush 2</b>	£270	Pixologic, www.pixologic.com @ Freehand, 01483 200 111	M   W	Feb 05	<b>4.5</b>
<i>A novel and innovative hybrid 2D/2.5D/3D modelling, painting, and rendering program with lightning fast, high-resolution polygon tools</i>					

## Desktop publishing software

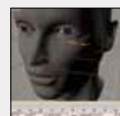
<b>Acrobat 6 Professional</b>	£339	Adobe, www.adobe.co.uk, 020 8606 4001	M   W	Digit 63	<b>4.5</b>
<i>Acrobat 6 is split into two versions, with Professional offering advanced features for print, which should make it a key part of your design workflow</i>					
<b>FullColor 1.5</b>	£55	Badia Software, badiact.com @ XChange, 020 7490 4455	Mac	Digit 76	<b>4.0</b>
<i>QuarkXPress dictates that you create colours in one window, and apply them in another. This useful plug-in brings these two functions together</i>					
<b>HumanEyes 3D</b>	from £550	HumanEyes, www.humaneyes.com, 00 972 2651 8999	M   W	Digit 76	<b>4.5</b>
<i>Breakthrough software for creating stereoscopic images for lenticular print or 3D monitors, with easy use interface. For now, though, it's very pricey</i>					

### SPOTLIGHT: 3D MODELLING AND ANIMATION SOFTWARE

#### SOLUTIONS FROM £1,000-£5,000

##### DISCREET 3DS MAX 7

Version 7 incorporates Normal Bump Mapping, Subsurface Scattering, and the complete Character Studio 4 character-animation package



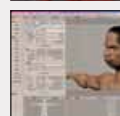
##### ALIAS MAYA 6

Maya 6 might not have added many headline additions, but the upgrade does deliver good workflow enhancements and refinements



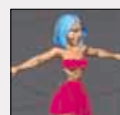
##### SOFTIMAGEXSI 4.0

A professional 3D tool with features tuned to match its price tag – revamped hair tools, particle dynamics, and nonlinear animation



##### NEWTEK LIGHTWAVE 8

Version 8 sees numerous hard and soft-body dynamics improvements, says NewTek, along with cloth and workflow enhancements



#### BBC's digital people

Aardman projected 3D models onto real people in its ad for the BBC's digital multichannel services. The technique involved using elements of real faces to create the characters



### SPOTLIGHT: 3D MODELLING AND ANIMATION SOFTWARE

#### SOLUTIONS FROM UNDER £1,000

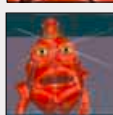
##### MAXON CINEMA 4D 9

One of the best 3D applications available, and ideal for learning the craft. Version 9 includes many improvements, including N-gon support



##### EOVIA CARRARA 4 PRO

A shallow learning curve and impressive feature set make Carrara 4 Pro a good addition to your creative toolbox



##### BIONATICS NAT FX V2

A true high-end solution for creating and animating 3D foliage. Offers just about every feature you can think of for animating vegetation



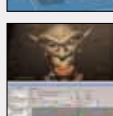
##### ELECTRIC RAIN SWIFT 3D 4

This 3D-to-Web software is versatile and easy to use. Version 4 sees a vastly improved polygon modelling environment and better gallery options



##### KAYDARA MOTIONBUILDER 6

A comprehensive tool that allows you import models from other applications and add real-time animation to them



## DIGIT BEST BUY RECOMMENDATIONS: DIGITAL VIDEO TOOLS

**Adobe After Effects 6.5**

A packed point-five upgrade to a great compositing application, After Effects 6.5 has more than 60 new effects, and an advanced clone tool

**Apple Final Cut Pro HD**

Apple has gradually improved this video-editing suite to the point where Final Cut Pro is one of the best in the business

**Apple Motion**

Apple's motion-graphics product provides real-time manipulation and rendering of motion graphics on the Power Mac G5 for £169

**Canopus Imagine 2.0**

Imagine 2.0 offers smooth and simple rostrum camera options, and packs in loads of new features to keep it ahead of all-in editing suites

**Canopus ProCoder 2.0**

This video-transcoding software is invaluable. Encoding quality is high, and encoding to multiple targets simultaneously is very quick

**Magic Bullet Editors**

This Final Cut Pro NLE plug-in version of the film-mimicking tool greatly reduced in price compared to previous versions, and performs impressively

**NewTek Video Toaster 3**

VT[3] is lacking in big new features, but adds plenty of updates to existing tools, making a ground-breaking product even better than before

**Reflecmedia Matenee 1.0**

It works best with Reflecmedia's own Chromatte hardware, but the software is quick and easy to use, and offers great results

**The Pixel Farm PFMatch 1.0**

For £750, you won't find a better tracking solution for broadcast media. Good tracking results, with a decent set of post-track tools

**Paradise found**

As part of Channel Four's Animator in Residence scheme, Gaelle Denis used After Effects to animate her bizarre story of a foreigner arriving in London in her shot film City Paradise

Product name	Price	Company and contact details	Platform	Reviewed	Digit rating
<b>InDesign CS</b>	£609	Adobe, www.adobe.co.uk, 020 8606 4000	M   W	Jan 04	<b>4.0</b>
<i>The CS version of Adobe's page-layout program gains an improved user interface, better styles and file import, and access to Version Cue and GoLive</i>					
<b>iDropper</b>	£39	Gluon, www.gluon.com @ XChange, 020 7490 4455	M   W	Digit 76	<b>4.0</b>
<i>A QuarkXPress plug-in that provides an eyedropper tool, which allows you to pick up attributes with one click and apply them elsewhere with another</i>					
<b>Multi Style II XT 5.0.4</b>	£69	Techno Design, techno-design.com @ XChange, 020 7490 4455	Windows	Digit 76	<b>4.5</b>
<i>This plug-in builds InDesign's must-have feature – nested type styles – into QuarkXPress. Makes complex styling much easier</i>					
<b>PageMaker Plug-in Pack</b>	£39	Adobe, www.adobe.co.uk, 020 8606 4000	M   W	Digit 76	<b>4.5</b>
<i>Designed to encourage PageMaker users to upgrade to InDesign, this plug-in pack is a must-buy thanks to its simple bullets and numbering features</i>					
<b>QuarkXPress 6.0</b>	£1,095	Quark, www.quark.co.uk, 00800 1787 8275	M   W	Aug 03	<b>3.0</b>
<i>Too little, too late. Some innovative features don't mask its shortcomings in the face of the competition – and the licensing scheme is crazy. Avoid</i>					
<b>ShadowCaster 3.2.1</b>	£69	Alap, www.alap.com @ XChange, 020 7490 4455	M   W	Digit 76	<b>4.0</b>
<i>A multi-featured QuarkXPress plug-in that makes drop shadows possible, as well as transparency effects, and very high-quality bevels</i>					

## Digital video

<b>After Effects 6.5</b>	from £565	Adobe, www.adobe.co.uk, 020 8606 4001	M   W	Feb 05	<b>4.5</b>
<i>The upgrade to version 6.5 adds an advanced clone tool, which saves a lot of time on boring jobs. Disk caching also speeds things up. Essential</i>					
<b>Au Naturel</b>	\$99	Buena, www.buena.com	M   W	Nov 04	<b>3.0</b>
<i>An After Effects plug-in that restores a more realistic gamma curve to video footage but the results aren't that different from built-in tools. Slow</i>					
<b>Blaze</b>	£199	Easy Effects, www.easyeffects.com	M   W	Jan 05	<b>4.0</b>
<i>Blaze successfully adds a different interface construct to Avid's product line. Offers a variety of colour, blur, and glow effects to text and video</i>					
<b>Boris Red 3GL</b>	from £599	Boris FX, www.borisfx.com, 01264 326384	M   W	Feb 05	<b>4.0</b>
<i>Runs as a compositing plug-in with almost any editing package, or as a standalone suite. The interface is cramped, but the results are great</i>					
<b>Boujou Bullet 1.0</b>	£1,365	2d3, www.2d3.com @ Techex, 0870 161 7171	M   W   L	Oct 04	<b>4.0</b>
<i>The interface of this matchmoving tool is a little glitchy, but Boujou Bullet offers a simple-to-use wizard, and offers fast and efficient matchmoving</i>					
<b>Colour Finesse 1.5</b>	£349	Synthetic Aperture @ Digital Garage Group, 01295 201 120	M   W	Jan 05	<b>4.0</b>
<i>Real-time colour correction systems haven't made Color Finesse redundant yet. It takes over the whole screen, but there's no better tool for colour</i>					
<b>Combustion 3</b>	£725	Discreet, www.discreet.com, 01252 456 669	M   W   L	Feb 05	<b>3.5</b>
<i>The best visual-effects package for under £1,000, but After Effects still tops it for motion-graphics work. However, Combustion represents good value</i>					
<b>Continuum Complete 3.0</b>	£459	Boris FX, www.borisfx.com @ 01491 875 665	M   W	Dec 04	<b>4.0</b>
<i>A massive set of video plug-ins that runs with Final Cut Pro, Premiere Pro or After Effects. Expensive but worth it for professional users</i>					
<b>Digital Fusion 4.04e</b>	£2,650	Eyeye, www.eyeyonline.com, 020 7637 5319	Windows	Feb 05	<b>4.0</b>
<i>Widely used in the US, Digital Fusion is a solid, reliable compositing suite. It renders quickly, and the interface is efficient and effective</i>					
<b>Edius 2.5</b>	£315	Canopus, www.canopus-uk.com, 01189 210 510	Windows	Sep 04	<b>3.5</b>
<i>It's come a long way, and every upgrade fills in a few gaps, but the well-designed Edius still has at least four better packages for competition</i>					
<b>Final Cut Pro HD</b>	£595	Apple, www.apple.com/uk, 0800 783 4846	Mac	Sep 04	<b>4.5</b>
<i>Final Cut Pro has clawed its way to the top since its launch five years ago. Its swift workflow and drag-&amp;-drop flexibility make it a top application</i>					
<b>Flix Pro 4.0</b>	\$149	Wildform, www.wildform.com, 001 310 396 2025	Windows	Digit 76	<b>4.0</b>
<i>Easy-to-use tool for converting audio and video clips into Flash format. Performance could be improved, and preview window should be larger</i>					
<b>Imagine 2.0</b>	£119	Canopus, www.canopus-uk.com, 01189 210 150	Windows	Oct 04	<b>4.5</b>
<i>Rostrum camera software that allows you to zoom and pan over still images. The real-time feedback is smooth, and the interface offers great control</i>					
<b>Liquid Edition 5.5</b>	£425	Pinnacle, www.pinnaclesys.com, 01895 424 228	Windows	Sep 04	<b>3.5</b>
<i>It has an efficient and flexible interface, but there are a few holes in Edition's feature set. Audio tools are weak, and the titling tools are poor</i>					
<b>Magic Bullet Editors</b>	£175	Red Giant Software @The CarPark, 02879 632 614	Mac	Jul 04	<b>4.5</b>
<i>This Final Cut Pro version of the Magic Bullet plug-in suite is a great product. It performs well, and is better value compared to older versions</i>					
<b>MatchMover Pro 3</b>	£5,995	Realviz, www.realviz.com @ Keoti, 020 7482 4858	M   W   L	Jun 04	<b>4.0</b>
<i>This professional 3D camera-tracking system is a capable and robust application, but can be buggy under Mac OS X and is very pricey</i>					
<b>Matenee 1.0</b>	£195	Reflecmedia, www.reflecmedia.com, 01606 593 911	M   W	Oct 04	<b>4.5</b>
<i>This keying plug-in is simple, fast, and effective – as close to one-click keying as you're likely to find at any price. Licensing is a little complex</i>					
<b>Mirage 1.2</b>	£895	Bauhaus Software, bauhaussoftware.com, 001 210 212 7530	M   W	Feb 05	<b>3.0</b>
<i>Combines video effects, motion graphics, rotoscoping, cel animation, and Painter-style natural media. Great for animators, not so great for compositors</i>					
<b>Motion</b>	£169	Apple, www.apple.com/uk, 0800 783 4846	Mac	Nov 04	<b>4.5</b>
<i>Apple's much anticipated motion-graphics product provides real-time manipulation and rendering of motion graphics on the Power Mac G5</i>					
<b>particleIllusion 3.0</b>	\$399	Wondertouch, www.wondertouch.com	M   W	Jan 05	<b>3.5</b>
<i>A standalone program based around a 2D particle system that uses layers to create faux 3D effects. Impressive feature set, but not as good as Motion</i>					
<b>PFMatch 1.0</b>	£750	The Pixel Farm, www.thepixelfarm.co.uk	M   W	Jul 04	<b>4.5</b>
<i>Relatively affordable tracking solution for broadcast, auto-tracking with good post-tracking cleaning and refinement tools. The interface is a little glitchy</i>					
<b>Premiere Pro 1.5</b>	£525	Adobe, www.adobe.co.uk, 020 8358 5857	Windows	Sep 04	<b>4.0</b>
<i>The interface has been given a grown-up redesign, and there's some new features too. Great integration with Adobe's other video products</i>					



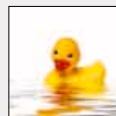
Product name	Price	Company and contact details	Platform	Reviewed	Digit rating
<b>ProCoder 2.0</b>	£299	Canopus, www.canopus-uk.com, 01189 210 150	Windows	Digit 76	<b>4.5</b>
<i>Encoding quality is great, and encoding to multiple targets simultaneously is fast compared to the competition. Lacks backwards compatibility</i>					
<b>RealProducer 10 Plus</b>	\$200	RealNetworks, www.realnetworks.com, 020 7290 1206	L   W	Jul 04	<b>2.5</b>
<i>It's the first commercial tool to support the Real 10 platform, but RealProducer 10 Plus barely improves on the free version</i>					
<b>Sapphire</b>	\$549	GenArts, www.genarts.com, 001 617 492 2888	M   W	Jan 05	<b>4.0</b>
<i>An expensive set of plug-ins, but the collection offers great a wide array of useful tools. The results are excellent, too</i>					
<b>Shake 3.5</b>	from £1,786	Apple, www.apple.com/uk, 0800 783 4846	M   W	Feb 05	<b>3.5</b>
<i>An exceptional tool for post houses putting together top film and commercial work, but it's not the right software for everyday jobs</i>					
<b>Squeeze 4</b>	\$449	Sorenson, www.sorenson.com	M   W	Jan 05	<b>4.0</b>
<i>Compression Suite that's simple and intuitive, with good export format option. Results are good quality, but you can't output from Windows to Mac</i>					
<b>StoryViz</b>	€3,000	RealViz, www.realviz.com	Windows	Jan 05	<b>4.0</b>
<i>Previsualization software that offers real-time preview rendering, import options, and real-world camera correlation. It's pricey, and tricky, though</i>					
<b>Vegas 5</b>	£425	Sony Pictures Digital, mediasoftware.sony.com @ MVS Digital, 0845 456 0801	Windows	Jul 04	<b>4.0</b>
<i>Ideal for short-form combo editing and compositing – thanks to a curves-based editing system and top-class audio tools. Lacks high-end colour controls</i>					
<b>Video Toaster 3</b>	£2,095	NewTek, www.newtek.com @ Onevideo, 0870 160 1770	Windows	Feb 04	<b>4.5</b>
<i>VT[3] is lacking in big new features, but adds plenty of updates to existing tools, making a ground-breaking product even better than before</i>					
<b>Visual Communicator</b>	£258	Serious Magic, www.seriousmagic.com, 01635 294 300	Windows	Jan 05	<b>2.5</b>
<i>It's the easiest live video tool so far, with good keying features. However, the stock media is awful, and you can't add your own templates</i>					
<b>Xpress Studio</b>	from £2,599	Avid, www.avid.com, 020 7534 2800	M   W	Oct 04	<b>4.0</b>
<i>This end-to-end creative studio for video work beats the competition in terms of tools, but it's expensive and, not as well integrated as some packages</i>					

## Graphic design software

<b>ADC plug-ins</b>	\$99.95	Kodak, www.asf.com, 01442 261122	M   W	Nov 04	<b>4.5</b>
<i>Standalone versions of clever Digital ICE technology to reduce noise and film grain while preserving detail. Works well, but not with mono</i>					
<b>ArtMatic Pro 3.0</b>	£169	U&I Software, www.artmatic.com @ Eovia, 01483 797 498	M   W	Feb 03	<b>4.5</b>
<i>As graphics toys go, ArtMatic is in a field of its own: you won't find a better experimental art, animation, and squeak generator anywhere</i>					
<b>Backdrop Designer</b>	\$199	Digital Anarchy, www.digitalanarchy.com, 001 415 586 8434	M   W	Nov 04	<b>3.0</b>
<i>Flexible easy to use Photoshop plug-in that lets you substitute simulated backdrops onto cutouts and blue-screen images. Good effects but very slow</i>					
<b>Creative Pack</b>	\$39	Flaming Pear, www.flamingpear.com	M   W	Nov 04	<b>3.0</b>
<i>Formerly Furbo Filters, Photoshop plug-in Creative Pack offers four filters and special effects but no way of reverting back to the original image</i>					
<b>Deep Paint</b>	\$249	Right Hemisphere, www.righthemisphere.com, 001 510 818 2880	Windows	Nov 04	<b>3.5</b>
<i>Photoshop plug-in that's like adding a miniature Painter to Photoshop. Lets you paint normally or use a wide range of tools for natural-media effects</i>					
<b>Digitalizer</b>	\$22	Panopticum, www.panopticum.com	M   W	Nov 04	<b>3.0</b>
<i>Photoshop plug-in that creates an image out of text characters. It's decent value, but bugs are evident on images over 5MB</i>					
<b>Eye Candy 4000</b>	\$169	Alien Skin, www.alienskin.com, 001 919 832 4124	M   W	Nov 04	<b>3.5</b>
<i>Eye Candy 4000 is a collection of 23 plug-ins, so there is bound to be something that appeals to you. The Shadowlab option is particularly useful</i>					
<b>Flood</b>	\$20	Flaming Pear, www.flamingpear.com	M   W	Nov 04	<b>4.5</b>
<i>Handy Photoshop plug-in for creating water effects is cheaper and easier to use than its rivals. Well worth the money</i>					
<b>FreeHand MX</b>	£289	Macromedia, www.macromedia.com/uk, 01344 458 600	M   W	Apr 03	<b>4.5</b>
<i>With its excellent MX Studio interface cleanup, great new tools, and a raft of improved features, this is the most compelling upgrade since version 7</i>					
<b>Illustrator CS</b>	£435	Adobe, www.adobe.co.uk, 020 8606 4000	M   W	Jan 04	<b>4.0</b>
<i>The typographic reworking, 3D graphics features, and improved performance are all impressive, but Illustrator's interface is showing its age</i>					
<b>ImageAlign</b>	\$129	Grasshopper, www.grasshopper.com, 0064 7854 7279	M   W	Nov 04	<b>3.5</b>
<i>Photoshop plug-in that allows photographers to compensate for lens problems like barrel and pincushion distortion. One of the best of its type</i>					
<b>Light! 2.0</b>	\$50	Digital Film Tools, www.digitalfilmtools.com	M   W	Nov 04	<b>4.5</b>
<i>Clever Photoshop plug-in that controls light and adds realistic shadows, even from objects not in the main image. Poor manual but still a Best Buy</i>					
<b>Mystical Lighting</b>	\$179	Auto FX Software, www.autofx.com, 001 205 980 0056	M   W	Nov 04	<b>3.0</b>
<i>Lighting control Photoshop plug-in that gives you more in-depth tools and control than in Photoshop CS. However, it's a bit slow</i>					
<b>Painter IX</b>	£249	Corel, www.corel.co.uk, 01628 589 800	M   W	Nov 04	<b>4.0</b>
<i>Painter IX has faster brushes than 8.1 and is all the better for it. There really is no better natural-media painting program on the market</i>					
<b>Paint Shop Pro 8</b>	£85	Jasc, www.jasc.com @ Digital Workshop, 0870 120 2186	Windows	Jul 03	<b>4.0</b>
<i>Jasc pushes ahead with more design and correction tools to keep Paint Shop Pro strong enough to fend off rivals. The new look may confuse you</i>					
<b>Photoshop CS</b>	£515	Adobe, www.adobe.co.uk, 020 8606 4000	M   W	Jan 04	<b>4.5</b>
<i>This upgrade is all about improving efficiency and productivity. There are few new effects, but the user has much greater freedom to create</i>					
<b>Piranesi 4</b>	£450	Informatix, www.informatix.co.uk @ CU, 020 8358 5858	Windows	Nov 04	<b>4.0</b>
<i>High-quality and fast painting tool for painting textures, adding depth and finishing 3D scenes. Primarily used by architects</i>					
<b>pxl SmartScale</b>	£149.99	Extensis, www.extensis.co.uk @ CU, 020 8358 5858	M   W	Nov 03	<b>4.5</b>
<i>It has limits, especially with text and logos, but SmartScale soothes the headache of low-res imagery like nothing else. Highly recommended</i>					

### SPOTLIGHT: DESKTOP PUBLISHING TOOLS

#### PHOTOSHOP PLUG-INS



##### FLAMING PEAR FLOOD

Make waves in your toolbox for only \$20 by creating water effects, ripples and reflections. Other plug-ins do this too, but this is excellent value



##### DIGITAL FILM TOOLS LIGHT12.0

Streaming light through windows, shadows where there were none, even light falling through the leaves of a tree. Good and only \$50



##### RIGHT HEMISPHERE DEEP PAINT

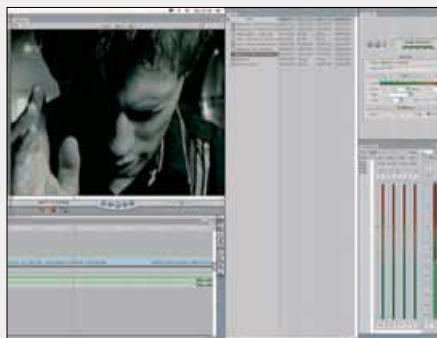
Like having a miniature Corel Painter bolted into your toolbox. Either apply texture effects or paint with brushes and by cloning photographs

##### Broken Saints

Budget Monks Productions created the Broken Saints animation series creating pen and ink drawings, then dropping the artwork into Photoshop. After Effects, Illustrator, Flash and Combustion were also used



### Software in focus: Final Cut Pro HD



In the five years since Apple first launched Final Cut Pro, it has emerged as one of the best digital video applications. It's partly responsible for the demise of Premiere on the Mac, and it's creeping up on Avid's dominance of the film and broadcasting arena.

The newest incarnation – Final Cut Pro HD – may sound like a massive leap, but the 'HD' tag is really just there to sound impressive. However, it does feature native DVCPRO HD support, and DeckLink HD cards are comparatively inexpensive if you want to work with full 1080p HD.

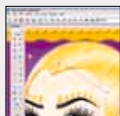
Final Cut's success hasn't been about headline-grabbing features – Edition, Premiere, and Xpress Pro have been first with most creative tools. Final Cut has flourished thanks to an efficient workflow, and the plethora of hardware solutions that enable it to work with most formats.

## DIGIT BEST BUY RECOMMENDATIONS: GRAPHICS SOFTWARE



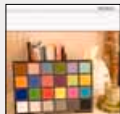
### ArtMatic Pro 3.0

As graphics toys go, ArtMatic is in a field of its own: you won't find a better experimental art, animation, and squeak generator anywhere



### FreeHand MX

With its excellent MX Studio interface cleanup, great new tools, and improved features, this is the most compelling upgrade since version 7



### InCamera 3.1

You need a colour target as well, but this hassle-free Photoshop plug-in adjusts image colour according to lighting profiles – with great results



### Painter 8.1

Painter 8.1 offers a more Photoshop-like experience, and is all the better for it. There is no better natural-media painting program on the market



### Primatte Chromakey 2.0

This compositing plug-in for Photoshop removes plain backgrounds from photos, and handles the difficult cutouts like hair really well



### pxi SmartScale

It has limits, especially with text and logos, but SmartScale soothes the headache of low-res imagery like nothing else. Highly recommended



### Knickers with a twist

Designer undie-maker Agent Provocateur hired Large Design to create the company's Web site. Large used Flash MX and Photoshop, as well as LightWave for 3D elements

## DIGIT BEST BUY RECOMMENDATIONS: UTILITIES



### Enfocus PitStop Pro 6.0

A versatile PDF preflight checking, manual/auto editing and tracking utility. Now updated for OS X and Acrobat 6 features and formats



### FileMaker Pro 7

This database/asset-management system has been updated to incorporate a higher capacity, instant Web publishing and loads more



### Flexion Solutions CubelLife

An easy-to-use in-house photography studio. The white tent and studio lighting system allows you to shoot objects with even light sources



### FlightCheck Pro 5

FlightCheck examines graphics files for problems before releasing them for professional print. An invaluable tool, v5 handles the latest formats

Product name	Price	Company and contact details	Platform	Reviewed	Digit rating
<b>Stitcher 4.0</b>	£345	www.realviz.com @ Computers Unlimited, 020 8358 5858	M   W	Apr 04	<b>4.5</b>
<i>The leading multi-image stitcher for panoramas and interactive spherical images gains improved controls and interface, and better rendering options</i>					
<b>Studio Artist 3.0</b>	\$379	Synthetic Software, synthetic.com, 001 415 762 9452	Mac	Jul 04	<b>3.5</b>
<i>Studio Artist is a powerful natural-media program, and the animation and rotoscoping features take it into new territory. Blighted by a poor interface</i>					
<b>Verdant</b>	\$179	Digital Elements, www.digi-element.com, 001 510 601 7351	M   W	Nov 04	<b>3.0</b>
<i>Photoshop plug-in that lets you create realistic trees and plants that you can add to your images. Not quite photo-realistic, and a bit pricey</i>					
<b>Xara X1</b>	£94	Xara Group, www.xara.com	Windows	Sep 04	<b>3.5</b>
<i>This vector-illustration program has an extremely fast rendering engine, and intuitive tools. However, its toolset is relatively limited</i>					

## Multimedia software

<b>DVDit 5</b>	£145	Sonic, www.sonic.com, 020 7437 1100	Windows	Aug 04	<b>3.0</b>
<i>Not really a professional-level tool, but DVDit is simple to use and uncluttered. The price is reasonable, but basic features, such as subtitles, are missing</i>					
<b>DVD Studio Pro 3</b>	£297	Apple, www.apple.com/uk, 0800 783 4846	Mac OS X	Digit 76	<b>4.5</b>
<i>Compact yet wide-ranging DVD authoring application. Version 3.0 boasts new interface elements, workflow enhancements, and wider format support</i>					
<b>Encore DVD 1.5</b>	£121	Adobe, www.adobe.co.uk, 020 8606 4001	Windows	Aug 04	<b>4.0</b>
<i>The upgrade to version 1.5 adds QuickTime support, background transcoding, a styles palette, After Effects integration, and some essential revisions</i>					
<b>iPix Interactive Studio</b>	from \$899	iPix, www.ipix-uk.com, 01482 308 830	M   W	May 04	<b>4.0</b>
<i>New spherical image stitcher and linker offers improved automation and input flexibility, but the most useful new tools cost extra</i>					
<b>Opus Pro 04</b>	£255	Digital Workshop, digitalworkshop.com, 0870 120 2186	M   W	Jul 04	<b>3.0</b>
<i>Clearly designed with the business user in mind, this multimedia-authoring tool is simple enough to use, but of limited use outside corporate markets</i>					

## Web design software

<b>Click Away 0.4</b>	\$499	Minds Eye View, www.pictosphere.com	Windows	Feb 04	<b>3.5</b>
<i>It's still in beta and not as advanced as iPix's software, but at least its images are freely distributable. Legal issues make buying Click Away a gamble</i>					
<b>Dreamweaver MX 2004</b>	£339	Macromedia, www.macromedia.co.uk @ 0131 458 6766	M   W	Nov 03	<b>4.5</b>
<i>This upgrade manages to provide more power while still maintaining ease of use, and its strong support for CSS points to its future path</i>					
<b>Flash MX 2004</b>	£419	Macromedia, www.macromedia.co.uk @ 0131 458 6766	M   W	Nov 03	<b>4.5</b>
<i>New Timeline tools make the base version a must-have upgrade. Many functions of the Professional version may not appeal to Web designers</i>					
<b>GoLive CS</b>	£335	Adobe, www.adobe.co.uk, 020 8606 4000	M   W	Jan 04	<b>4.0</b>
<i>Up-to-date CSS support and improved integration with Adobe products make this a good upgrade, but Dreamweaver users are unlikely to switch</i>					
<b>Fireworks MX 2004</b>	£249	Macromedia, www.macromedia.co.uk, 0131 458 6766	M   W	Nov 03	<b>4.0</b>
<i>Not that radical an upgrade, but there are welcome performance improvements, collaborative features, and enjoyable new creative tools</i>					
<b>NetObjects Fusion 8</b>	£132.50	WebSite Pros, www.netobjects.co.uk, 001 877 729 8625	Windows	Digit 76	<b>3.0</b>
<i>A tidy interface and plentiful wizards make Fusion an easy-to-use Web design product, but you have to pay extra for some of the functionality</i>					
<b>TourWeaver 1.1</b>	\$115	EasyPano, www.easypano.com	Windows	Mar 04	<b>4.0</b>
<i>An easy-to-use and simple-to-learn interactive tour authoring tool. Excellent features and a well-conceived interface make for a versatile system</i>					
<b>WireFusion 4.0</b>	from £59	Demicron, www.demicron.com, 0046 856 486 950	M   W   L	Oct 04	<b>4.0</b>
<i>WireFusion 4.0 features an updated interface, and is quick and easy to use. Pricing starts at £59, but the full version stretches to £1,195</i>					

## Utilities

<b>CubelLife</b>	from £255	Flexion Solutions, www.cubelife.com 01530 837 143	M   W	Oct 04	<b>4.5</b>
<i>This in-house photography studio comprises of a collapsible light tent and studio lamp that make it easy to shoot photos with even illumination</i>					
<b>Designer Edition 4.0</b>	from £420	EFL, www.bestcolor.com @ CU, 020 8200 8282	M   W	Digit 76	<b>4.0</b>
<i>Software RIP that provides accurate, high-quality colour output from a variety of inkjet printers. This upgrade doesn't offer many new features</i>					
<b>FileMaker Pro 7</b>	£219	FileMaker, www.filemaker.co.uk, 01628 534158	M   W	Jun 04	<b>4.5</b>
<i>Version 7 of this database/asset-management system boasts increased capacity, improved architecture, tighter security and multiple window views</i>					
<b>FlightCheck Pro 5</b>	£295	Markzware, www.markzware.com, 0031 70 307 2977	M   W	Jan 04	<b>4.5</b>
<i>FlightCheck examines graphics files for problems before releasing them for professional print. An invaluable tool, version 5 handles the latest formats</i>					
<b>PitStop Pro 6.0</b>	£429	Enfocus, enfocus.com @ XChange International, 020 7490 4455	Mac	Feb 04	<b>4.5</b>
<i>A versatile PDF preflight checking, manual/auto editing and tracking utility. Now updated for OS X and Acrobat 6 features and formats</i>					
<b>Portfolio 7</b>	£130	Extensis, www.extensis.co.uk @ CU, 020 8200 8282	M   W	Aug 04	<b>4.0</b>
<i>An improved interface and ease-of-use make this more accessible than previous versions. New NetPublisher allows you to create a Web portfolio</i>					
<b>Profile Mechanic</b>	£135/£140	Digital Light & Color, www.dl-c.com, 001 617 489 8858	M   W	Jun 04	<b>4.0</b>
<i>An easy-to-use, and efficient program for calibrating your workflow. Profile Mechanic is simple to set up, good value-for-money, and reliable</i>					
<b>iView MediaPro 2.0</b>	£85	iView, iview-multimedia.com, 020 7223 8691	Mac	Mar 04	<b>4.0</b>
<i>A fast and efficient way to manage and manipulate collections of digital images, iView MediaPro 2.0 offers a lot of features at a low price</i>					





issue 74



issue 75



issue 76



issue 77



issue 78



issue 79



issue 80



issue 81



issue 82



issue 83

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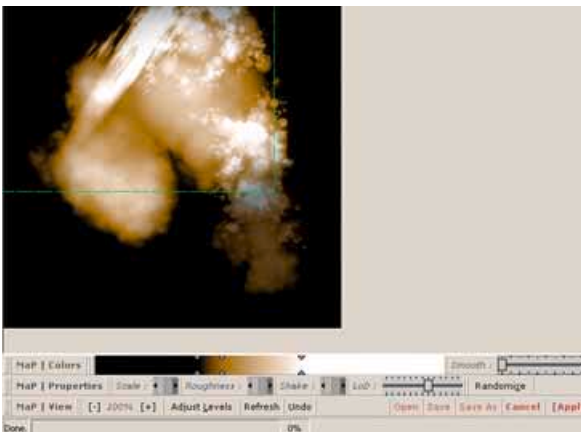
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Using creative software can be a subjective experience, so we endeavour to let you try the software that we review in Digit. If you see this symbol in the issue, a demo of the software being reviewed can be found on this issue's cover disc.

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**#84 ON THIS ISSUE'S CD**

## FOUR FULL FREE APPLICATIONS FOR YOU TO KEEP MAPZONE FREE 1.7

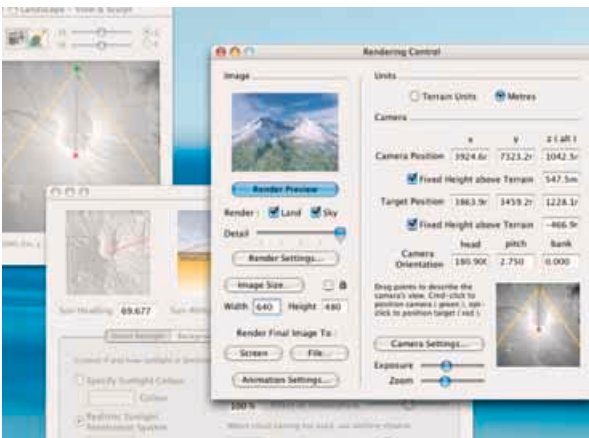


[www.allegorithmic.com](http://www.allegorithmic.com), Windows

MaPZONE FREE is a plug-in collection of Adobe Photoshop effects from Allegorithmic, which also works with Adobe Illustrator and Jasc Paint Shop Pro. It contains over 400 preset effects including fully-editable non-photorealistic rendering styles, filters, texture effects, colour patterns and grayscale maps.

Each of these effects is fully procedural so that artists can easily obtain thousands of different effects from each one. MaPZONE FREE gives users access to a user community to allow graphic artists to share custom presets and get new ones as soon as they are published. MaPZone Free works with Photoshop 7/CS, Illustrator 10/CS and Paint Shop Pro 7/8.

## TERRAGEN 0.9



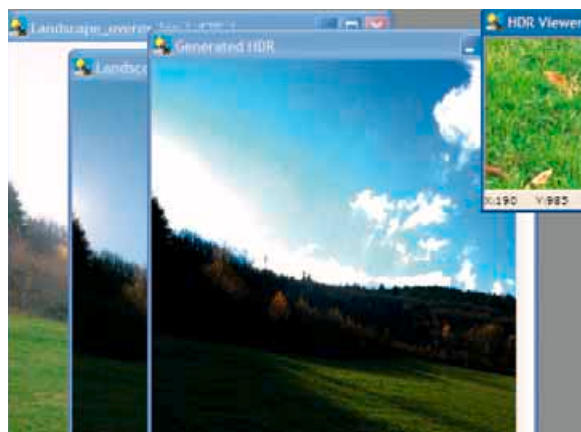
[www.planetside.co.uk/terragen](http://www.planetside.co.uk/terragen), Mac OS X and Windows

Terragen is a photorealistic scenery generation tool for which version 0.9 for Mac OS has just been released.

Terragen 0.9 for Mac OS X includes many features not available in the Windows version, including rendering to a file, QuickTime support (including QTVR creation), OpenGL 3D preview, Velocity Engine accelerations, multithreading, fully customizable default settings, AppleScript support, and an improved scripting interface.

This version of Terragen is free to use for non-commercial work. To use it commercially you must register with Planetside Software and pay \$99. The latest Windows release is on the disc as well.

## PHOTOMATIX BASIC



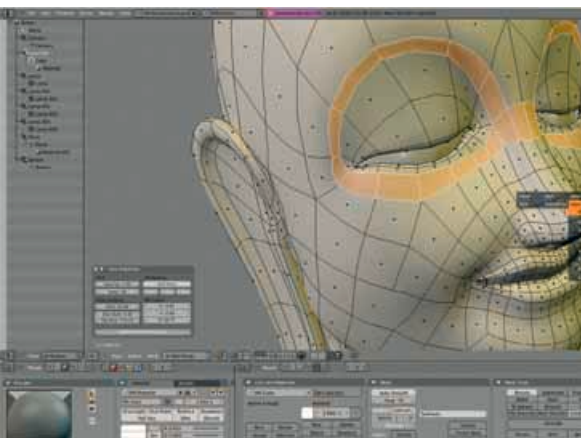
[www.hdrsoft.com](http://www.hdrsoft.com), Mac OS X and Windows

Photomatrix Basic is a light version of HDRSoft's dynamic range increase software Photomatrix Pro. Photomatrix Basic creates High Dynamic Range images and combines two differently exposed images of a high contrast scene.

Photomatrix Basic offers automatic exposure blending of two images, combining overexposed and underexposed shots of the same scene into one image with increased dynamic range. Additionally, Photomatrix Basic generates a High Dynamic Range Image (HDRI) from any number of differently exposed images. Other features include 16-bit support, and an alignment tool.

A trial version of Photomatrix Pro is also included on the disc.

## BLENDER 3D 2.36



[www.blender3d.org](http://www.blender3d.org), Mac OS X and Windows

As featured in our article on 3D software for 2D designers on page 68, this is the very latest version of this free 3D package. And don't let the 'free' tag put you off – this is a powerful solution that offers high-end tools and animation, and has a cult following online.

Blender includes a full set of animation, rendering, and modelling tools than any designer interested in 3D should try. Version 2.36 significantly improves the application's normal mapping abilities, which enables modellers to fake 3D textures such as worn stone or stubble without requiring intensive processing of true 3D surfaces. It fixes many of the bugs found in the 2.35 release.

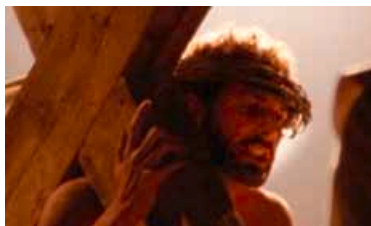


FREE STOCK IMAGES FROM IMAGESOURCE AND XCHANGEPIX

# TEN ROYALTY-FREE IMAGES



[www.imagesource.com](http://www.imagesource.com), [www.xchangepix.com](http://www.xchangepix.com)  
This month we present ten timely royalty-free images for you to keep. You can even use them in your commercial work if you wish. Five are from Image Source and are on the theme of love – just in time for Valentine's Day! Image Source can be contacted on 020 7075 1111. The other five are from XChangePix and are taken from the latest addition to its library: *Design Pics*, whose collections include *Creative Concepts* and *Emotions & Expressions*. The provided images are based around themes of Spring, Easter, life, and rebirth. XChangePix can be contacted on 020 7490 4455.



## INDESIGN CS

[www.adobe.co.uk](http://www.adobe.co.uk), Mac and Windows  
Alongside our feature on The Joy of InDesign on page 40, we've included the demos of Adobe's layout application. It offers a full DTP toolset, and is tightly integrated with Photoshop, Illustrator, and Acrobat for swift production and output of pages. Top new features include story and separation preview palettes.

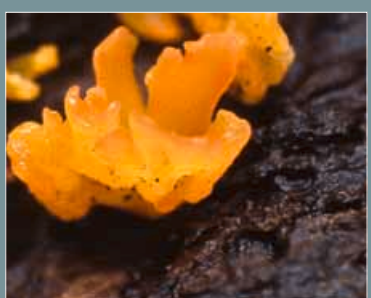
**This is a demo version.**



## CARRARA 4 PRO

[www.eovia.com](http://www.eovia.com), Mac and Windows  
As reviewed in our feature on page 98, Carrara 4 Pro is a complete 3D studio that delivers modelling, animation, and rendering tools. New features include advanced animation techniques, plus powerful landscape and sky tools that update in real-time. All rendering can be distributed across a network

**This is a demo version.**



## SAMPLE SCANS

taken from our film scanner round-up  
In our feature on page 104 we've put film scanners for professional photographers head-to-head to find the best on the market. The images provided on the disc are samples scans of 35mm slides. They have been cropped and reduced from 16-bit colour to eight-bit for space reasons, but have not been scaled. Slides courtesy of Dan Sullivan.

## MORE DEMOS

### PFHoe

Mac and Windows  
[www.thepixelfarm.co.uk](http://www.thepixelfarm.co.uk)  
PFHoe, is a low-cost, DV-only motion tracking application that uses the same core technology as the company's high-end PFTrack tracking analysis system. PFHoe offers a simple interface that is intuitive to editors unused to motion tracking. Tracking data can be exported in formats for After Effects, Discreet 3DS Max, Combustion, Hash Animation Master, LightWave, and Softimage|XSI.



### MojoWorld Pro 3.0

Mac and Windows  
[pandromeda.com](http://pandromeda.com)  
The third release of landscape generation tool MojoWorld Professional adds support for 2D images, vegetation, and river terrains. 2D special effects add weather and lens flares, while new transformation tools include the Smart Stamp cloning tool. A procedural forest plug-in allows large collections of trees to be placed instantly, while a texture animation plug-in adds animated oceans and starfields.



### Plus

Adobe Reader 6.0  
(Mac and Win)  
StuffIt Standard  
(Mac and Win)  
WinZip Shareware  
Evaluation (Win)



**4** FULL TOOLS FOR FREE! DIGIT84

**LATEST DEMOS**

- THE PIXEL FARM PFHOE 1.0
- PANDROMEDA MOJOWORLD 3.0
- EOVIA CARRARA PRO 4.0
- MOZILLA FIREFOX 1.0
- ADOBE READER 6.0
- WINZIP SHAREWARE EVALUATION 9.0
- STUFF-IT STANDARD

**PLUS!**

- 10 ROYALTY-FREE PICTURES!  
Images of winter and spring from XChangePix.com and Image Source (Mac/Windows)
- INDESIGN CS DEMO  
Check out the latest release of Adobe's groundbreaking DTP software (Mac & Windows)
- PLUS SAMPLE SCANS FROM THIS MONTH'S FILM SCANNER HARDWARE LABS

**Missing CD?**  
Please consult your newsagent

**On the CD** – turn the page.

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# DOSCH DESIGN



**Dosch Textures:  
Stone & Concrete V3**



**Dosch 3D:  
Interior Scenes**



**Dosch LayerFX:  
Architecture**



**Dosch Textures:  
Construction Materials V2**



**Dosch HDRI:  
Extreme Hires**



**Dosch HDRI:  
Skies**



**Dosch 3D:  
Virtual Sets**



**Dosch VizImages:  
Trees**



**Dosch 3D:  
Packaging Design V2**



**Dosch 3D:  
Cars 2004**

***Innovative CG products that are time-savers and easy to use***



**Dosch 3D:  
Electronics**



**Dosch 3D:  
Humans V2**



**Dosch 3D:  
Surrounding Skies V2**



**Dosch LayerFX:  
AUTOMotion**



**Dosch Textures:  
US-Architecture**

## ***3D-Design, Animation, Visualization***

Besides complete 3D-models and scenes ►**Dosch 3D**, Dosch Design products contain surface materials ►**Dosch Textures**, High Dynamic Range Images ►**Dosch HDRI**, as well as 2-dimensional objects for architectural visualizations ►**Dosch VizImages**.

Animated movie sequences ►**Dosch Movie-Clips**, plus quality music and sound effects ►**Dosch Audio** complement this product segment.

## ***Graphic Design, Desktop-Publishing, Webdesign***

►**Dosch LayerFX** products offer a comprehensive collection of design 'templates' which are provided as Photoshop™ (.psd) layer images.



**Dosch 3D:  
Trees & Conifers V2**



**Dosch LayerFX:  
Engineering**

## **DOSCH DESIGN Europe**

Gottard-Schuell-Str. 14 - 97828 Marktheidenfeld - Germany  
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